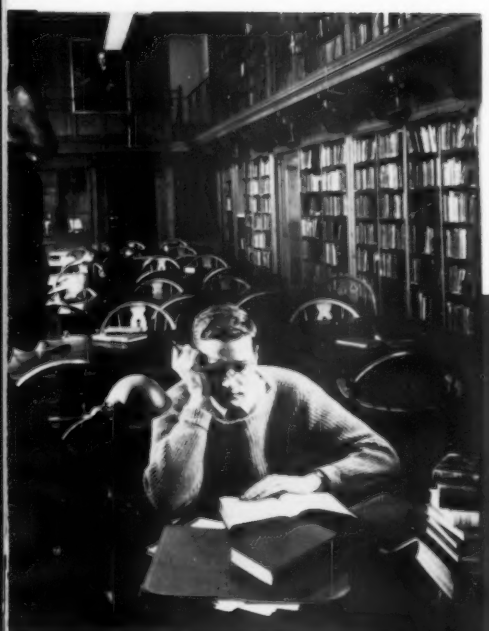
April 3, 1961

# PULP & PAPER



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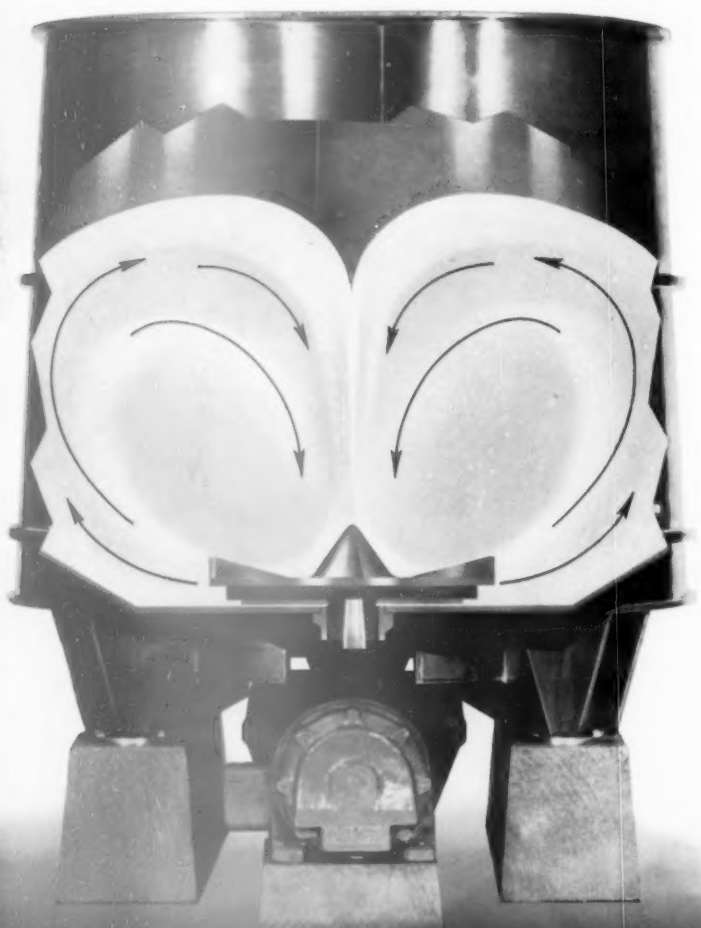
# 8 BIG REASONS why mills choose the EMERSON TRIPLE ATTACK PULPER



**1 FAST, UNIFORM DEFIBERING**
Triple Attack pulping results from the (1) violent action of the impellor, which (2) forces stock against the lobe-shaped, tapered tub wall, which redirects it (3) against more onrushing stock coming from the impellor. No dead spots exist as fibers go through repeated cycles of contact with the impellor, tub wall and other fibers.

**2 BOTTOM ROTOR**
A heavy steel weldment body with 6 replaceable cast segments, each having a stainless steel vane, hard faced for wear resistance. Assures immediate pulp submergence and complete, uniform defibering, mixing or blending of full or partial charges.

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*Emerson Triple Attack Pulpers are available in 9 sizes — from the 100 lb. laboratory or low tonnage model to the 8000 lb. unit — in carbon steel, several grades of stainless steel and tile. Complete information will be provided by getting in touch with our sales engineer nearest you or The Emerson Manufacturing Co., Division of John W. Bolton & Sons, Inc., Lawrence, Massachusetts.*

BOLTON EMERSON
TRADE MARK

April 3, 1961 VOLUME 35, NUMBER 7 PULP & PAPER

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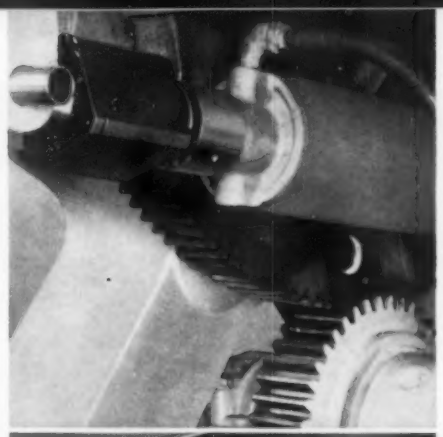

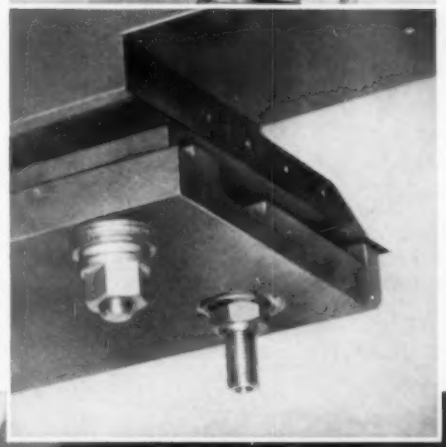

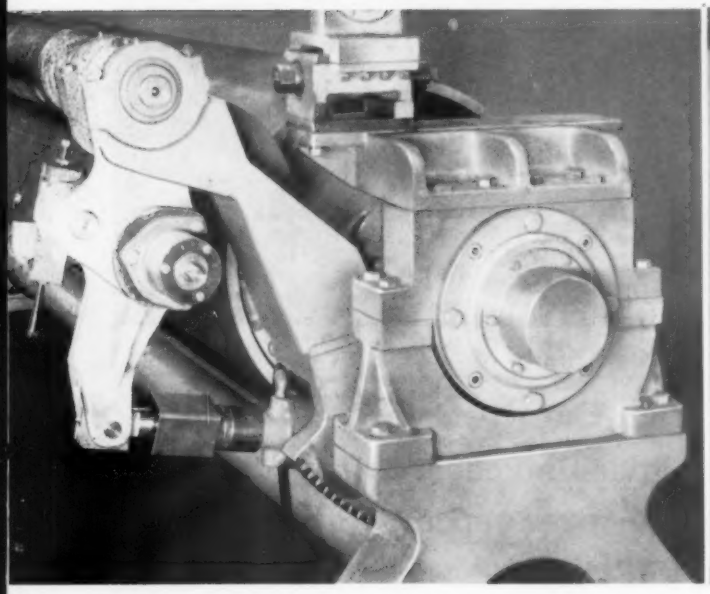

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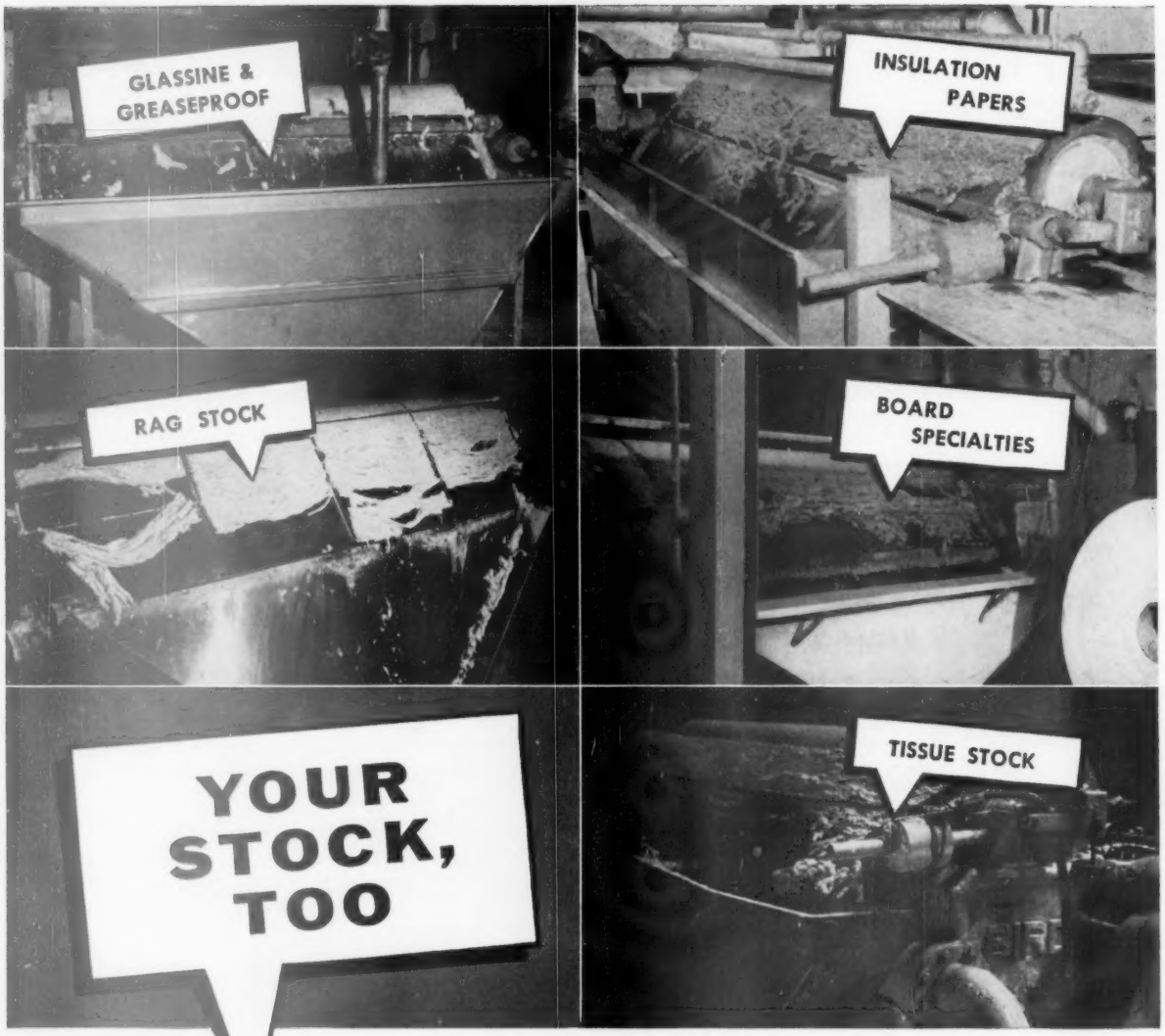


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# NEWS DIGEST...

**APPA's spokesman at pollution hearing** in Washington was John Becker, St. Regis, who received good treatment at hands of Congressmen. He warned that the move to substitute "navigable" for "interstate" waterways in the highly controversial Blatnik Bill (HR 4036) and "any persons" for more specific definition of violators, would open the doors wide to federal intrusion into pollution problems now being handled by the states. Pres. Kennedy is against intra-state interference by the federal pollution authorities without consent of state governor.

**Pollution bills introduced in Minnesota** recently included house and senate bills providing for establishment of sanitary regions and for the creation and administration of a water pollution control advisory committee and sanitary districts.

**The "wilderness protection" bill battle** still poses some doubts as this issue goes to press. Senator Anderson (D., New Mexico), sponsor of S.174, insisted his bill go to the Senate floor but he was willing to accept minor amendments. In committee debate, Sen. Allott's (R., Colo.) substitute bill would effectively whittle down the 32 million acres to be locked up, by specifically designating certain wilderness areas now, but holding off Congressional approval of primitive areas until later. There was hope some of his provisions would still get into the bill reported via amendments.

**President Kennedy is for multiple use** but just when or where is the administration for it? That's one of the big questions in Washington today. The Anderson "wilderness protection" bill would allow grazing because "grazing interests are too powerful to buck," according to one Washington close observer. Even hunting would be allowed, as the bill stood at press time, although hunting is forbidden in national parks. What about logging out dying trees? JFK's "multiple use" ideas are still to be defined.

**A major market for high spec wood** cellulose, Tyrex tire cords, has earned a good report card in the important category of resistance to fatigue under severe service conditions, according to a report delivered at the annual meeting of the Textile Research Institute. This follows by a year a similar report showing the good fatigue behavior of Tyrex cords under normal driving conditions. Report was sponsored by American Viscose, American Enka, Buckeye Cellulose, Courtaulds (Canada), Industrial Cellulose Research Ltd., Industrial Rayon, North American Rayon, and Rayonier. Nylon was generally believed to be superior but the two-year independent study of fatigue resistance does not bear this out.

.....BUSINESS

# Business is looking brighter

## say government, industry reports predicting recession's end

NEW YORK—As annual reports from the world's leading pulp and paper producers arrived, it became more and more obvious that the picture at the end of 1960 was an accurate one: Sales were up to all-time highs but profits were off.

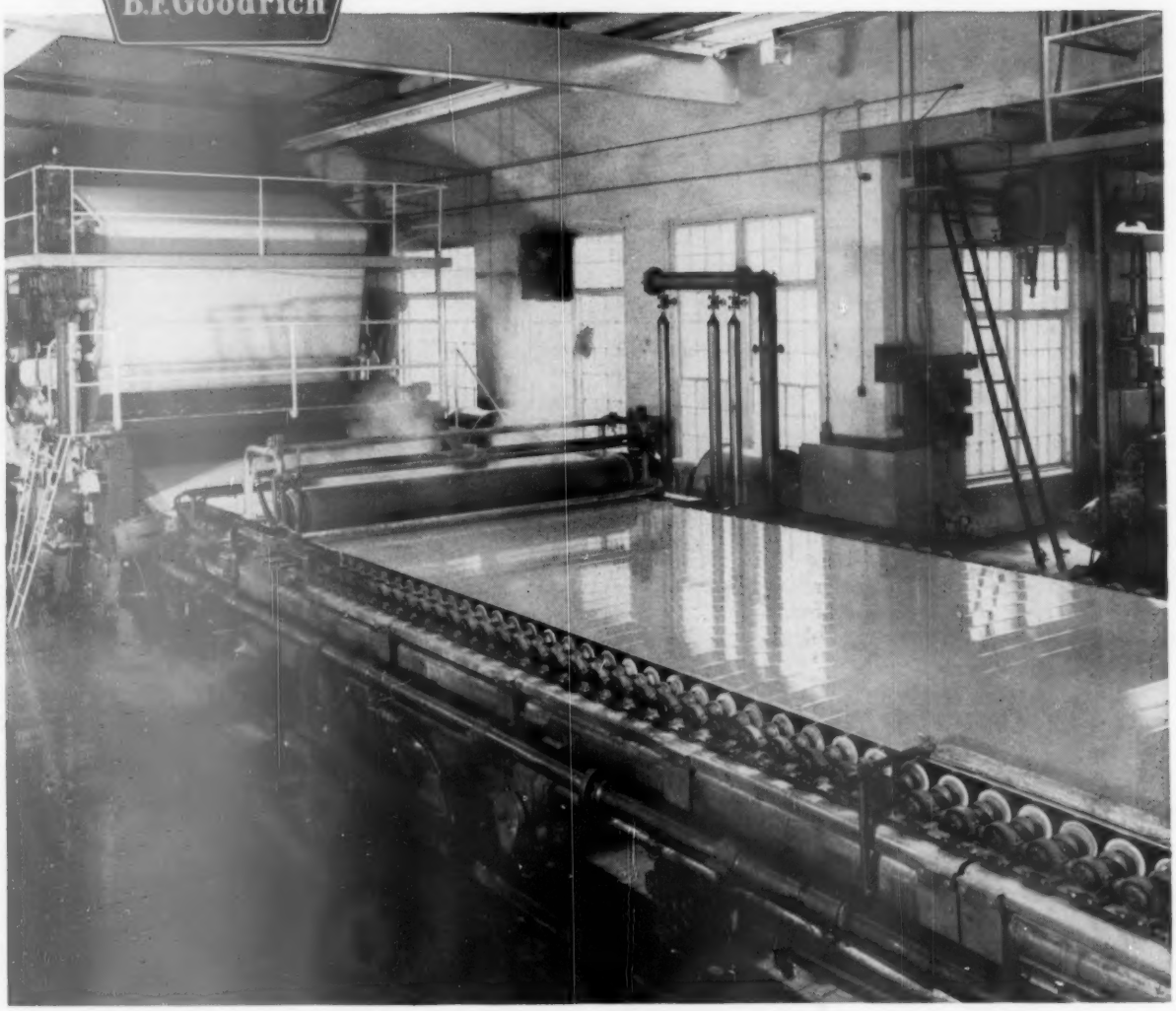
But if the picture was grim in retrospect, indications were that the worst was over. Secretary of Commerce Hodges had already indicated in Washington that the recession had levelled off and things were looking brighter.

The Federal Reserve Board, too, reported that the eight-month decline in industrial production had "come to a halt" in February and this report was taken as impressive evidence that the recession was near, if not at, its bottom. Added to this was the optimistic picture painted by many of the top paper companies.

Said Crown Zellerbach: ". . . there appears to be some recovery from the fourth quarter of 1960 . . . assuming a continuation of this trend and improvement in the general economy during the course of the year 1961 should be a better year for sales and earnings than . . . 1960."

**International Paper, noting decline** in net earnings from 1959, commented: "There is . . . general expectation that the economy is due for

B.F.Goodrich



# These rolls are on the level

*Better water removal, no spotting with B.F.Goodrich table rolls*

BECAUSE B.F.Goodrich table rolls are ground straight and true, they move evenly with the wire without developing high or low spots. They are dynamically balanced to prevent whipping even at high speeds. The sheet that's produced is smooth and uniform. No need to use deflectors even if rolls are running as fast as 1000 feet per minute.

These rolls are called "Dukbak" because they shed water fast, throw it down and away, not up against the wire. There's no danger of water spray returning to the wire and spotting the sheet. You get faster, more efficient water removal, better paper formation.

In the picture, you see part of the new fourdrinier installed at Crocker Burbank & Co., Association, Fitchburg, Mass. All 46 rolls were covered with B.F.Goodrich Dukbak. With this new equipment, production of high-grade printing papers has been increased 100%. The rolls have needed no maintenance of any kind.

There are many advantages—both from the standpoint of performance and cost-saving—that you can expect when you buy B.F.Goodrich rubber-covered rolls. We'll be happy to send you our new catalog—or have one of our men come to your plant to make recommendations. There's no obligation, of course. Just write *B.F.Goodrich Industrial Products Co., Dept. M-992 Akron 18, Ohio.*

**B.F.Goodrich *paper mill rolls***

an upturn later this year, so from the standpoint of demand the low point for the paper industry may not be far off."

Nevertheless there was caution in all reports. IP's report went on to say, "It is clear . . . that 1961 will be another year of intense competition both here and in overseas markets . . . excess capacity and cost-price squeeze are still with us . . . pressure on profits continues . . ."

Scott Paper's president Thomas B. McCabe said: "Present economic adjustment will be relatively short-lived unless there is undue labor strife or extreme governmental action in the fiscal and monetary fields."

At Rayonier Inc., president Russell Erickson announced that first quarter 1961 profits were expected to be "somewhat lower" than a year ago because of price reductions on most chemical cellulose grades. But he predicted an upswing in sales during the final three quarters, a total 1961 volume at least "5% above 1960."

West Virginia Pulp and Paper Co., revealing its first fiscal quarter figures for 1961, also showed an optimistic turn, recording a $3 million increase over its previous all-time high of $56,871,000 reported the first quarter of 1959. Although its earnings were below last year, the difference was attributed to costs of starting up major new equipment at the firm's Luke, Md., mill, plus the usual story—excess capacity.

Throughout the industry, reports indicated that the upswing had already started. At least, said many, general sales conditions as the year ended its third month were generally looking brighter.

**Sales up, earnings down story** was pretty standard throughout the U.S. last year. Crown Z noted a 5% increase in sales volume over 1959, but only a 2% increase in net income. Rayonier's sales were almost the same for the two years but earnings dropped from $13.3 million to $9.5 million. International Paper decreased in sales, $1,012,647,543 for 1960 compared to $1,030,208,695 in 1959. Earnings, however, were off from $83.6 million in 1959 to $71.6 million in 1960.

Fraser Companies, Ltd., reported sales off some $1.3 million, net earnings off $537,000. St. Regis said its sales in 1960 reached a new high of $536,119,354 compared with $505.7 million in 1959, but income was off from $30,067,898 to $21,957,517 last year. Weyerhaeuser reported that its sales were about the same as 1959, but earnings dropped from $60,407,000 to $47,751,000.

Abitibi Power and Paper, Ltd., reported its net sales were 9% higher than in 1959 but net earnings were only up 4%. Federal Paper Board Co. was off on net sales and earnings, showed an earnings drop from $10.6 million in 1959 to $8.2 million in 1960. P. H. Glatfelter Co., reporting its 1960 picture, commented: "Despite the fact that production of paper in the industry reached a new high in 1960, the overcapacity problem was responsible for lower operating rates." Their sales were 3% below 1959, their earnings off only 1%.

**The 1960 report was brighter** for some, such as Sonoco Products in Hartsville, S.C., which showed record highs in consolidated net earnings, sales and dividend payments. In addition they pointed out that Duropipe, a bituminized fibre pipe for drain and sewer lines, showed remarkable gains during the year, increasing 100% over 1959.

Consolidated Water Power and Paper Co. showed record sales and earnings for 1960, with sales up nearly $4 million and earnings up 14½% over the previous year. Its pulp sales were reported as "steady" and some of the increase was laid at the door of development of new markets for such items as its lignin liquor by-products. Great Northern, showing a net sales increase of 7.4% attributed it to "greater demand for our specialty papers, which represented 25% of the 1960 total tonnage as compared with 23% in 1959, and to a 4% increase in sales of standard newsprint." Net income was $3.1 million last year; $1.84 million in '59. ■

# What industry is planning for '61

NEW YORK—Trends were already well established by mid-March. And almost without exception, the major pulp and paper companies were moving full swing along similar paths.

Integration with end-product converters seemed to be one all-out objective. Another was a beefed-up, intensified attitude toward research, both in the development of new products and a greater search for by-products from the myriad of chemicals used and produced by the industry. Most firms were attacking the marketing problem with greater vigor than ever before.

International Paper, its eye on shifting market conditions, made significant changes in its product mix, increased its production of high quality bleached papers and boards, especially those which are engineered for consumer packaging and point-of-purchase display.

Based on the ultimate success of its St. Francisville, La., double-coated magazine paper mill, Crown Zellerbach upgraded its West Coast printing paper production, equipped its No. 6 machine at West Linn, Ore., to produce a similar product. Next in line is West Linn's No. 5 machine, which will be similarly equipped. Aiming at quality in other fields, Crown also rebuilt the No. 5 machine at Camas, Wash., doubling daily capacity at the mill and broadening the range of quality products made there.

Under study at present and awaiting approval is a general improvement project for Crown's Bogalusa, La., mill. The company is also actively engaged in investigation for a proposed newsprint mill at Kremmling, Colo., which would serve the Inter-Mountain area.

**Results of upgrading, research** are perhaps nowhere as apparent as with Scott Paper Co., whose percentage increase in new income exceeded percentage increase in sales. Boasting several new products in diversified fields, a general along-the-line quality improvement, Scott's accent on research and marketing was paying off. Last year the company invested 27% more in research than in 1959 and it planned to double the 1960 figure in the next five years. Part of this program is its $20 million research building in Delaware County, Pa., now nearing completion. Its research produced two new products, Scott Apparel Foam and Scott Industrial Foam, which have gained such demand that Scott is building a $3 million plant to make more of them.

Rayonier, too, was in the new product race, announcing that it will soon market a modified cellulose with applications in the paint and film fields, as a binder for non-woven fabrics and with applications in the paper industry. Another development was its

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rayon fiber suited for blending with dacron, orlon or nylon. One manufacturer is already licensed to use it.

**General upgrading of pulp, paper** and products from them was generally reflected in the increase in bleached pulp. Fraser Companies had inaugurated a bleached hardwood sulfite mill during the year, using it to blend with other pulps and increase its production of bleached paper and board. Fraser also put-on-line its new machine at Madawaska, Me., equipped with the most up-to-date devices for making light and medium-weight papers from bleached chemical woodpulp. It can produce 40,000 tons a year.

West Virginia was in the quality race at full tilt with its new mill operations at Luke, Md. The $55 million investment, which pioneers some new production techniques aimed at a product of unique design for printing and publishing markets, is now in operation.

**New product race was running** at high throttle elsewhere too. Weyerhaeuser had improved and standardized techniques for production of Pres-Tock, a wood fiber-based moldable sheet which was first commercialized last year. It also introduced a disposable bulk milk container made of rigid containerboard with a polyethylene liner which is light, easy to handle, leak-proof, sanitary and is available up to 6 gal. size.

Abitibi diversified production with Platewood, made at Sturgeon Falls, a core stock receiving wide attention for high-grade furnitures, cabinets and panelling. St. Regis came out with a kraft paper and plastic foam laminated Capcote produced for insulated hot-drink cups. Others were producing similar stock.

**Major additions were announced** in the research field. Scott's $20 million investment was perhaps the largest but St. Regis was building a $3 million research center in Rockdale County, N.Y., to consolidate some of the technical activities now being carried out at Deferiet, Carthage, Rhode Island and Pensacola, Fla. Great Northern received the okay to go ahead with plans for a $1.5 million engineering and research center. Weyerhaeuser completed a new laboratory in Seattle and completed plans to enlarge the firm's principal research activities at Longview, Wash. Crown Zellerbach created a new position of Vice President for Research and Development and assigned veteran Dr. W. M. Hearon to the job. One major objective here and in many other plants is to increase the use of chemical products from papermaking.

**Extension of overseas holdings** continued throughout the industry at an accelerated rate. IP termed its agreement with the W. R. Grace Co. "one of the most significant recent developments." This gives International Paper holdings in a bagasse paper mill in Colombia, full ownership of the bagasse mill, shipping container and folding box plant in Puerto Rico, and full ownership of a folding box plant in Mexico.

Crown Zellerbach's 1959-established international division has interests in small packaging plants in Central America and has negotiated a technical assistance agreement with a large paper maker in India to provide process know-how for a $20 million newsprint mill near Bombay.

Scott Paper now has affiliations in England, Italy, Belgium, Mexico, Australia and Colombia. Sales of its joint-owned venture in England with Bowater increased 32% last year and a second affiliate with the British company in Turin, Italy, another in Belgium, both reported good years. ■



# NPTA studies merchant aids

## and eyes new methods for mill-distributor cooperation

NEW YORK—What can paper mills and paper companies do to assist the 1,100 merchant-distributor companies and their branches which are members of the National Paper Trade Association?

This question came up often both inside and outside the March 26-29 sessions of NPTA's 58th annual convention in mid-Manhattan. Uncertainties raised in the minds of paper buyers by recent developments in Washington mean that it will be the middle of the year—rather than this spring—"before any significant increase in sales volume will be felt by the paper industry."

So said Floyd H. Blackman, winding up two years as the 48th president of NPTA. Mr. Blackman, who also is the president of Stone & Forsyth Co., Cambridge, Mass. paper merchants, said mill orders would have accelerated in March if it had not been for depressing publicity from the new Kennedy administration.

**On the bright side**
Mr. Blackman said distributor-merchants expect a 3% increase in 1961 over 1960—and a 3% increase each of the next two years.

"Highly competitive conditions" will be faced by the paper industry for the next three years, said Mr. Blackman. While mill sales were down as a whole in 1960, paper wholesalers set a record for sales of 3.1 billion dollars. Distributors of printing papers upped sales nearly 4% to 1.47 billion dollars. Industrial paper wholesalers set a 1.6 billion dollar record.

A "healthy trend" said Blackman is the sale of more paper through wholesalers—benefiting customers as well as mills. And O. Glenn Leach, executive secretary of the NPTA, in his annual report, told the distributor-merchants of the "tremendous enthusiasm" he had found in paper companies for the recent activities of NPTA to revitalize and stimulate paper selling techniques.

**What mills can do**
said several NPTA members, is publicize the merchants in their advertising and promotion. Also said NPTA members, paper companies should be sure their own representatives are prepared to make good presentations before groups of merchants—especially since these meetings are on the merchant salesmen's own time.

Merchants at the NPTA sessions told PULP & PAPER editors that the paper companies should give more

# ...Fluid Power news

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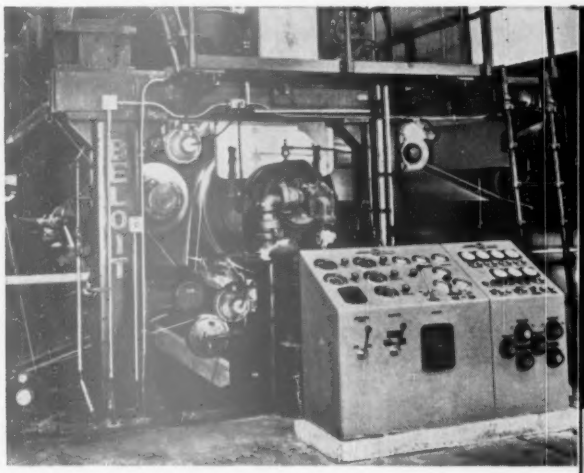
## HOW *HYTAC** SYSTEMS CONTROL NEW EXTENSIBLE PAPER MACHINE SECTION SPEEDS IN 12 MILLS

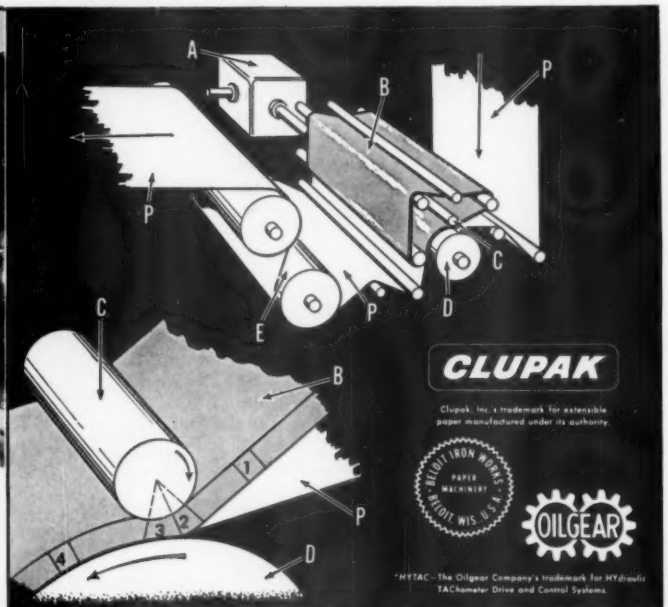
**USERS:** *Twelve Paper Companies—Licensed by CLUPAK, INC.*

Builder—Sections and Differential Drives—Beloit Iron Works, Beloit, Wisconsin

**DATA:** Systems to vary and precisely control speed and draw of new sections that can be an integral part of complete, new paper machines, or inserted into existing machines for production of CLUPAK® extensible paper—a revolutionary, patented, smooth, tough, kraft sheet. Original requirements called for systems that, when applied to *Beloit* mechanical differentials, would: *1.* Provide precision-controlled, infinitely variable section speed decrease up to 10% under main lineshaft speed—as selected from remote pushbutton stations. *2.* Maintain selected section speed within ±0.25% max. variation over a 50% load change at max. lineshaft speed. *3.* Be: compact; impervious to heat, high humidity; thrifty on electrical power input, wiring, installation downtime, floor space; completely free, if possible, from maintenance-provoking belts, chains, relays. *4.* Insure trouble-free, continuous, heavy-duty, full-production paper machine drive service—but permit section immobilization for production of non-extensible stock. *5.* One source and responsibility for these speed and draw controls preferred.



One of the most recent of the twelve new **Beloit** extensible sections and control consoles incorporating **HYTAC* SYSTEMS** for precise speed and draw control—as installed on No. 1 machine at **International Paper Company's Southern Kraft Division Mill, Camden, Arkansas,** to produce **CLUPAK®** extensible paper. Control console instrumentation includes direct-reading hydraulic pressure gages from the **OILGEAR System** to provide operators with constant, visual, exact indication of load or draw on the section.




*HYTAC—The Oilgear Company's trademark for HYdraulic TAChometer Drive and Control Systems.

**HOW IT WORKS:** Section driven by Oilgear-equipped **Beloit** differential (A), consists of a 1-in. thick natural rubber Blanket (B) operating over 3 rolls, and between Nip Roll (C) and steam-heated, polished, chrome plated Dryer Drum (D). Paper (P) is held between Blanket (B), slipping against Dryer Drum (D). Enlarged view at Nip Roll shows how normal (1) Blanket (B) is compressed (2), squeezed and elongated (3), and rapidly contracts (4) after leaving Nip Roll—shrinking paper. Normal production shrink requirement is accurately controllable up to 15% by controlled variation in nip pressure, moisture content, dryer drum temperature. Accurate control of draw in and between extensible unit and 3rd Dryer Section (E) is required regardless of load changes . . . a reason for the precise, infinitely variable speed-draw control provided by Application-Engineered **HYTAC* Systems.**

**SOLUTION:** Application-Engineered *HYTAC** (HY*draulic* TAC*hometer*) controlled differential drives consisting of Oilgear "DRt-3517" Variable Displacement Pumps, "H-6017" Constant Displacement Motors, and *HYTAC** components with remote pushbutton control to provide precise speed-draw control on *Beloit* extensible sections installed and commercially producing CLUPAK® extensible paper at nine mills in the United States, two in Canada, and one in Sweden. Several other paper manufacturers licensed by CLUPAK, Inc., to produce extensible paper under its authority, now have these Oilgear-equipped *Beloit* extensible sections on order. Oilgear *HYTAC** Drive-Control Systems were selected after 3 years of development on this process and machine—from a 2-in. table model, through a 15-in. laboratory model, and a 60-in. pilot model—as best suited to provide the accuracy and range of control required for the variable speed drives. *Actual commercial operation has proved that these highly accurate, compact, heavy-duty, Oilgear Systems can maintain any selected section speed with less than ±0.25% variation* regardless of load change *over a 10:1 range of lineshaft rpm—plus enabling operators to infinitely vary each section's drive rpm up to 15% under main lineshaft rpm . . . exceeding originally specified requirements!*

Other inherent Oilgear "Any-Speed" Drive features are: cushioned, controlled starting, acceleration, deceleration, braking . . . positive, automatic overload protection . . . continuously filtered pressure and flood lubrication. Copies of Oilgear's *Fluid Power NEWS* 3, 5, 8, 9, 11—with detailed descriptions of some of these and other *Application-Proved* installations are available on request.

*For practical solutions to your linear or rotary Controlled Motion problems, call the factory-trained Oilgear Application-Engineer in your vicinity. Or write, stating your specific requirements, directly to . . .*


**THE OILGEAR COMPANY**

*Application-Engineered Controlled Motion Systems*

**1592 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN**

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thought to giving "exclusive representations." Too often, they said, the paper companies don't seem to care whether the merchant is handling a competing line.

**How to make a profit**
with paper was the theme of this year's NPTA annual and the Printing Paper Division led this off under chairmanship of William F. Obear, newly elected president of NPTA, who is also president of Tobey Fine Papers Inc., St. Louis. Max Clampitt, of Dallas, Courtney H. Reeves of Boston, and Charles E. Canfield, of New York, were on his team, discussing ways and means of battling the rising costs.

In the Industrial Paper Division, Gardiner Young, who continues as president of this group, and is also head of Bancroft Paper Co., Monroe, La., presided at a session in which Gordon W. Sawyer, of Neenah, Wis., discussed sales prospects; Ralph Schnitzer, Sr., of Texas, was moderator of this division's panel session on profit problems. Herbert Altholz of Chicago, on financing problems, and Edmund Beuter, of San Francisco, on warehousing and office procedures, were panel leaders.

**New ideas for paper uses**
was the theme of the "Imagineering" session under Charles Canfield. This is a Printing Paper Division idea and this year the contest for new paper ideas was opened to printers as well as merchants. The contest runs from April 1 to September 30 and there will be $10,000 in prizes.

Last year's winner was an idea for soft cheap pocketbook editions of school textbooks which children could keep at home eliminating the need of carrying books back and forth from school. NPTA leaders said this could be a tremendous boost to manufacture of more books and use of more paper. No. 2 winner called for charts or guides for shopping carts in selfservice stores, to tell shoppers what was available on the shelves. No. 3 idea was for a printed card every person would carry to explain any physical defects in case he or she was in an acccident.

NPTA has kept up a good record of ideas for paper uses—one merchant firm was responsible for a new grocery bag. An idea for running wires for an indoor TV aerial in kraft paper is another that rang a bell.

For the first time at this meeting, NPTA held "Brass Tack" Workshops —for both the Industrial Paper and the Printing Paper Divisions.

**Teaching paper roll sales**
has been a goal of the Printing Papers Workshop. NPTA held a successful week-long seminar in Chicago to train 31 men from various merchant companies in the facets of web printing and the uses of paper rolls. Reason: It is anticipated that salesmen of printing paper sheets will have to know sales and servicing of paper rolls in the future. The subject of web printing was also studied at the meeting's workshop, under direction of Courtney Reeves of Boston, with Hamilton Vose, Jr., Berkshire Papers, heading the web session.

Frank Leslie, Jr., of Minneapolis, explained the "MM" plan—a system for simplifying present standards for establishing basic weights and sizes papers by adoption of a common standard for all grades. There would be no change in paper manufacturers' weight and thickness formulae on any grade, but the paper mill would be asked to employ a double designation on paper shipments in some agreed-on uniform style.

Printing and paper firms are asked to accept as standard a scale for conversion of present weights to 25 x 40 M. One merchant says this would save three to six months time in training salesmen.

**Now Heading NPTA**

Obear

Whiteman

New top men of NPTA are William F. Obear, president of Tobey Fine Papers, Inc., St. Louis, Mo., and now president of NPTA, and Rolland Whiteman, executive v.p. of Blake, Moffitt & Towne, San Francisco, who succeeds him as vice president. Gardiner Young, head of Bancroft Paper Co., Monroe, La., carries on as vice president for Industrial Papers div.

# NPTA adopts new meeting schedules

NEW YORK—This was the next-to-last spring meeting to be held in New York. Beginning in 1963 the spring conventions will be "passed around" to other cities. This year it drew close to 4,000 distributor-merchants and mill men, about one-fourth from mills. Paper companies held forth in about 200 hotel suites.

**Competition with Paper Week**
is one of the considerations in the plan to discontinue spring meetings in New York. Next year's 59th annual for NPTA will be "goodbye" to the Waldorf—it is set for mid-April. Then begins a complete switching of the fall and spring NPTA meetings:

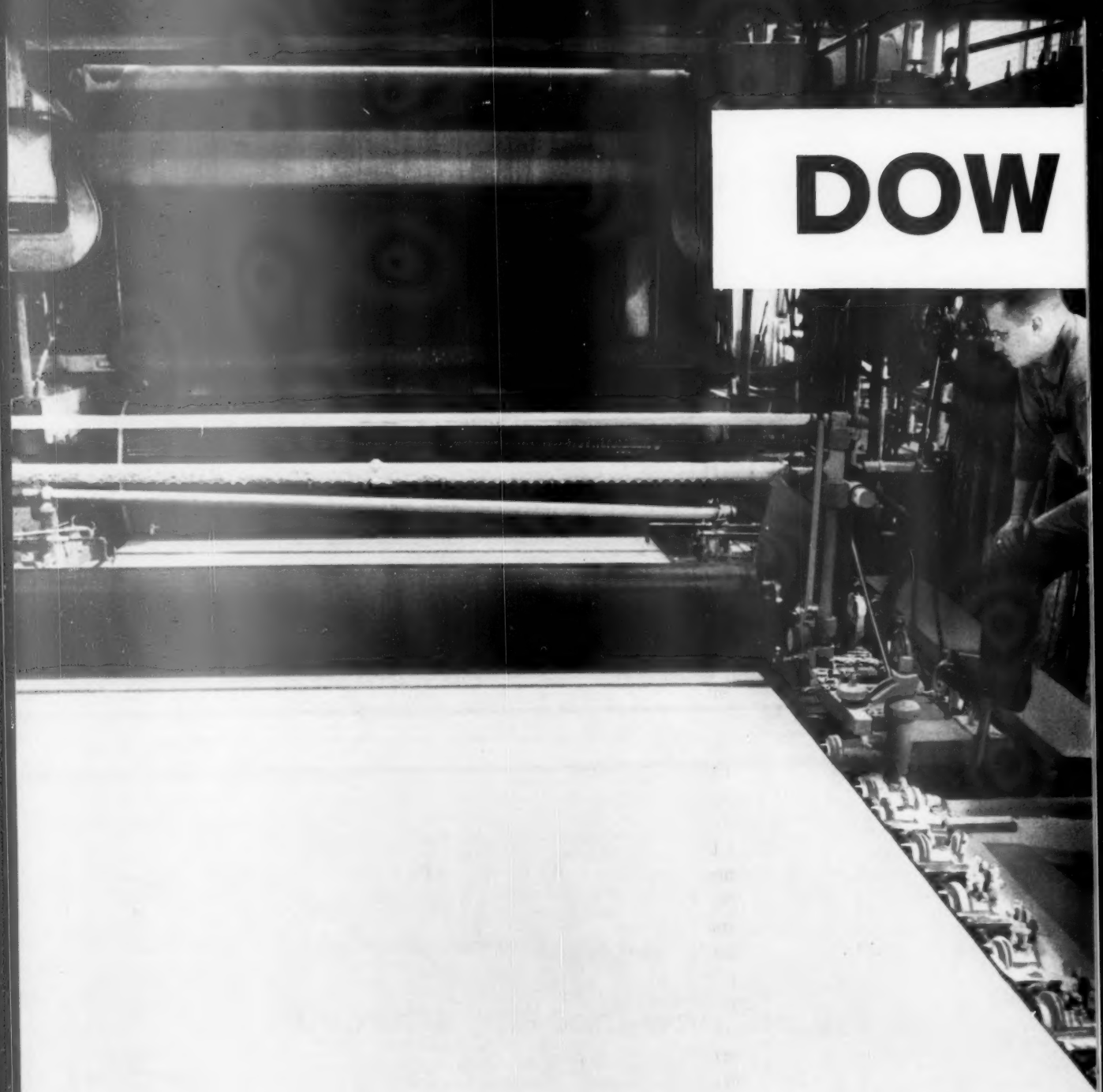
1. NPTA will hold spring meetings in different cities around the country, and no longer in New York. Dallas, San Francisco, Miami and others will be candidates. There will be no Paper Shows at spring meetings.

2. The fall meeting of 1963 will be in the new 60-floor Americana Hotel on 7th Avenue, between 52nd and 53rd in New York. Fall meetings will alternate between New York and Chicago. The Chicago monopoly on fall meetings ends with the 1961 and 1962 meetings in the Conrad Hilton.

3. The only Paper Show each year will be at alternating New York and Chicago fall meetings. It was decided to concentrate on one big show, instead of trying to sustain two each year. Problems of space limitations at the Waldorf caused abandonment of the shows there. ■

Quite an unusual record for any association was set by NPTA at the New York convention when some 20 past presidents were in attendance. George Olmsted, Sr., 1918-19 president, is oldest living president. Seven before him and seven after him are deceased, but the next one, A. M. Miller, president in 1926, was present for the meeting. They were guests at a breakfast on March 27. Lester Ramaker of Milwaukee presided.

For its big luncheon, NPTA lined up an an outstanding speaker —Dr. Wernher von Braun, the missile expert, who heads America's space program. He emphasized the vital important of the program.




Trial runs can be set up in your plant by Dow technical personnel. For full details, just call your nearest Dow sales office.

# paper processing chemicals

# SEPARAN POLYMERS

## INCREASED RETENTION WITH SEPARAN SAVES $2 TO $15 PER TON IN FILLER COSTS

SEPARAN® NP10 shows a remarkable ability to attach pigments and fillers to cellulose fibers. Applying this property to paper making has resulted in substantial increases in filler retention with savings in valuable pigment and filler costs.

The chart shows typical improvements with several sheet types. The net savings were calculated by subtracting the cost of the Separan NP10 used from the value of the filler saved.

Improved retention decreases the save-all load, headbox consistency, two sidedness, pinholes, wire abrasion and felt plugging. Hence, it contributes to improved formation and better machine operation.

*Process water treatment* is another area where Separan products can improve operations. Although Separan does not replace primary flocculants such as alum, it does reduce the amount needed. Separan NP10 does, however, act as a secondary coagulant which improves settling rates and clarity in primary water treatment.

Separan products are high molecular weight, water soluble polymers. Solutions can be easily prepared and handled.

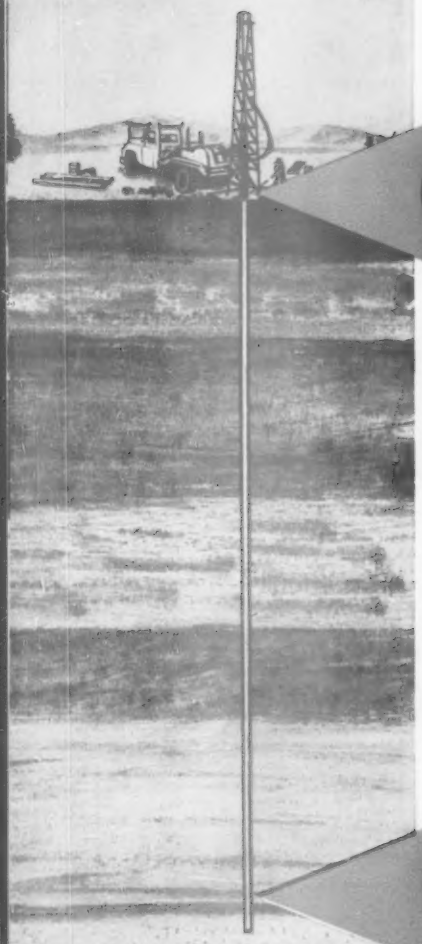
If you are not already using Separan, make an appointment for a trial run in your own plant with technical assistance from Dow. They will furnish proportioning pumps to make the trials convenient and consistent with your present operation. Just call your nearest Dow sales office.

| Typical Mill Results | SEPARAN NP10 lb. / ton | CLAY lb. / ton | $TiO_2$ lb. / ton | ASH % | OPACITY % | $ / ton WITH SEPARAN NP10 |
|---|---|---|---|---|---|---|
| 55 lb. ENVELOPE | NONE | 550 | 0 | 7.3 | 88.0 | |
| | 0.5 | 370 | 0 | 10.1 | 90.3 | $4.30 |
| 30 lb. MAGAZINE | NONE | 600 | 0 | 14.8 | 74.0 | |
| | 0.6 | 375 | 0 | 16.1 | 74.9 | $4.10 |
| 60 lb. OFFSET BOND | NONE | 550 | 30 | 12.2 | 92.0 | |
| | 0.5 | 400 | 30 | 13.7 | 93.0 | $2.50 |
| 25 lb. MACHINE COATED CARTON WRAP | NONE | 50 | 150 | 12.2 | 77.0 | |
| | 0.75 | 50 | 150 | 13.1 | 78.0 | $5.50 |
| 50 lb. OFFSET BOND | NONE | 370 | 145 | 9.6 | 89.0 | |
| | 0.6 | 140 | 122 | 11.5 | 91.5 | $15.15 |

### SAVE UP TO $3.50 PER TON ON PEROXIDE, INCREASE BRIGHTNESS WITH VERSENEX 80 IN GROUNDWOOD BLEACH

Using Versenex® 80 chelating agent in combination with hydrogen peroxide in groundwood bleach gives you increased brightness, or you can maintain your present brightness level at lower peroxide concentration. Versenex 80, added to the pulp just prior to the bleach tower, inactivates the heavy metal ions which are mainly responsible for peroxide decomposition. Savings of up to $3.50 per ton in chemical costs are being realized in actual mill operation. For a trial run of Versenex 80 in your own plant, call your nearest Dow sales office.

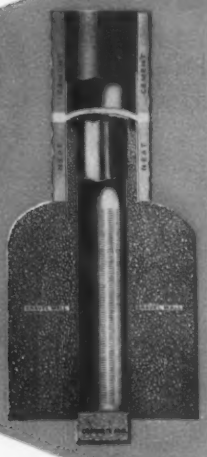
**THE DOW CHEMICAL COMPANY** DOW Midland, Michigan



Layne SINCE 1882

Layne Vertical Turbine Pumps are designed, engineered and manufactured by Layne in Memphis, Tennessee and nowhere else. Because pumping needs vary, there is a Layne pump for every pumping requirement—from 30 to 100,000 G.P.M. in sizes from 4 to 42 inches. Layne Pumps include Deep Well and Short Coupled (oil or water lubricated), Propeller, Mixed Flow, Regular and "In-Line" Submersible. For additional information write for bulletins 200-oil lubricated or 201-water lubricated.

# has the only complete service that means Water



The Layne Gravel Wall Well is an example of Layne experience, engineering and research. This gravel packing and 134 shutter screen employment affords larger screen openings, reduced friction, reduced draw down and pumping head. It increases specific capacity and makes for more effective retention of native sands. For additional information write for bulletin 900.

From top to bottom, you can depend on Layne for the most complete water service in the industry. This complete service provides undivided responsibility for the delivery of water . . . of the quality and in the quantity required. Over 75 years of *growing* service gives the skill and technical know-how which makes Layne First in the field of water. For additional information write for bulletin 10.

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WATER SERVICE:

Initial Surveys • explorations • recommendations • site selection • foundation and soil-sampling • well drilling • well casing and screen • pump design, manufacture and installation • construction of water systems • maintenance and service • chemical treatment of water wells • water treatment—all backed by Layne Research.

*Layne services do not replace, but coordinate with the services of consulting, plant and city engineers.*

Layne SINCE 1882 COMPLETE WATER SERVICE

**LAYNE & BOWLER, INC., MEMPHIS**

*General Offices and Factory, Memphis 8, Tenn.*

LAYNE ASSOCIATE COMPANIES THROUGHOUT THE WORLD

SALES REPRESENTATIVES IN MAJOR CITIES

# Trade expansion with U.S. urged in Canada

VANCOUVER—Expansion of Canada's trade in forest products with the U.S. should receive greater encouragement from the federal government as a means of strengthening Canadian economy and reducing unemployment. This was the recommendation contained in a submission to the senate at Ottawa by the Council of Forest Industries of British Columbia.

British Columbia's case was presented by J. R. Nicholson, president of the council, in a memorandum which expressed the views of several associations comprising the council.

Mr. Nicholson called for a more realistic approach to problems such as tax inequities, unfavorable railroad rates, labor relations, incentives to capital investment, more extensive automation in the woods and mills and a vigorous marketing program. Of special interest was his reference to the U.S. market, the need for continued good relations with that market and commodity-free-trade.

"We have heard . . . more and more frequently that . . . we are becoming too dependent on our great neighbor to the south," said Mr. Nicholson. "Frankly, our council, its member associations and their member companies are unable to see how such a suggestion can have any substance in respect to the sale of goods by Canadians to Americans where our continued prosperity is so obviously linked with the vast expanding American economy. We have benefited immeasurably from our share in that expansion over the past 15 years. We should constantly strive to expand exports to the U.S. of forest products, of which we have great surpluses. We should stop worrying about economic dependence upon the U.S. It is our largest and most logical market."

**One step towards increasing trade** with the U.S. proposed by Mr. Nicholson was freer trade. "We are not suggesting all-out free trade at first," he said, "but rather free trade in such forest products as the Americans will increasingly need from us and we are willing to supply on a competitive basis."

As an outstanding example of this Mr. Nicholson cited the case of newsprint which nearly 50 years ago was given free entry to the U.S. Newsprint is Canada's major export to the U.S. and chief source of American dollars.

"We believe that pulp, newsprint, lumber and other mills could and should be built for the production of goods for shipment to the U.S. or any other country that is willing to buy from us, so long as we can sell the production of these mills profitably.

**"Canada has duty-free entry** into the U.S. for almost four-fifths of our forest products, including newsprint, woodpulp, pulpwood, logs, railroad ties, laths, shakes and shingles, and substantially duty-free entry of lumber up to the products of the planing mill.

"Duty-free or substantially duty-free entry of these products accounts for about 40% of Canada's total exports to the U.S. We should follow a course that will make it possible for us to move more and more forest products duty-free into all trade areas, especially into the U.S.

**"Tariff barriers against papers** other than newsprint, all paperboards, prime-coated lumber, finished lumber and lumber products severely curtail our exports. We should strive to get rid of any barriers that stand in the way of increasing sales of such products," Mr. Nicholson continued.

"We fully realize that free trade in the forest products not now on the U.S. duty-free list may be a gradual process. Even if Canadian opinion supported us in our view, other obstacles remain, most serious of which is congressional action by the U.S. The removal of tariffs on products such as paperboard and fine paper is bound to result in market losses and readjustment in operations, with resulting unemployment, and as a consequence each tariff change would be looked at carefully by Congress with resulting delay.

"The U.S. appears to be the only large trading area in which, in the foreseeable future, we can expand our trade sufficiently to bring about the balance of trade essential to Canada's continued prosperity." ■

## Board mills operating at 93% capacity; Operating rate off 4% so far this year

CHICAGO—Paperboard mills in the United States ended the week of March 11 running at 93% of capacity. Rate for corresponding week one year ago was 94%. Rate for week ending March 4 was 89%. For the year to date, this industry has operated at 89% of capacity, down approximately 4% for the same period in 1960.

The latest figures from National Paperboard Assn. show production (in tons) for various grades for the week ending March 11 and the year to date: container-domestic use: 154,396 & 1,470,976; boxboard-domestic use: 98,859 & 947,326; containerboard type: 37,719 & 256,-595; and boxboard type: 32,119 & 284,475.

# Western mills smash new safety barrier

PORTLAND, ORE.—West Coast pulp and paper mills in 1960 had another outstanding year in the field of industrial safety. They achieved a new all-time low frequency rate of 4.68 disabling injuries per million man-hours worked. This was the 15th anniversary of the program of the Pacific Coast Assn. of Pulp & Paper Mfrs. to assist member mills in reducing and eliminating injuries to employes.

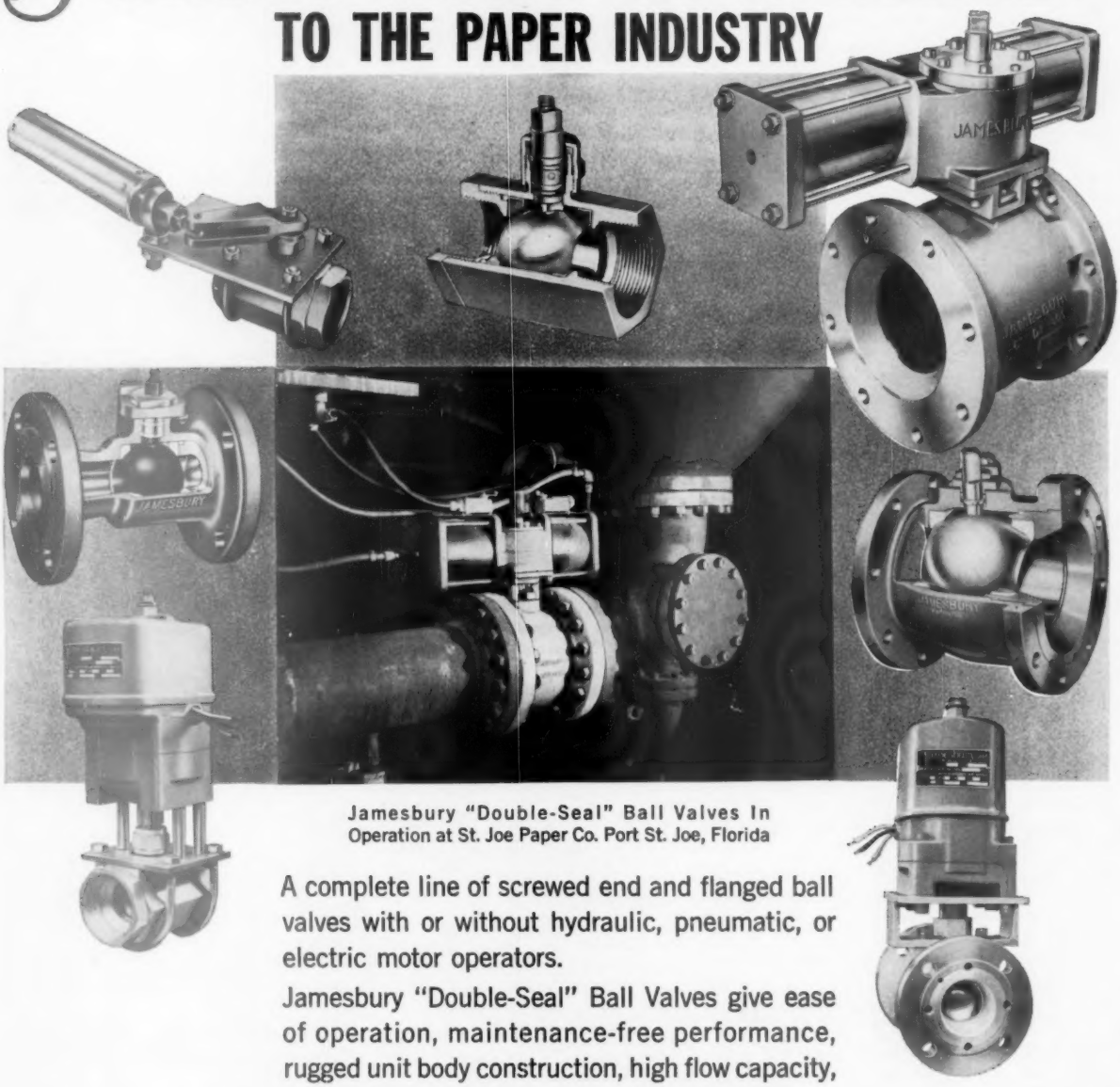
The record low 4.68 frequency rate and the 15th anniversary are something to celebrate—but there'll be no celebration, indicates Managing Director S. W. Grimes of Portland, until zero frequency is reached for the whole West Coast. "The report shows," says Sid Grimes, "that even with the marvelous reduction achieved during the past year, we still suffered 214 disabling injuries, including two fatalities, during 1960." Mr. Grimes said there is but one conclusion to be drawn: "Those injuries must be further reduced and eliminated."

Highlights of the 1960 "Injury Fre-

# jamesbury "Double-Seal"™ BALL VALVES*

*patented

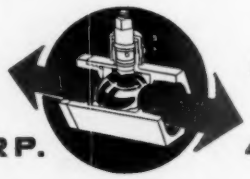
## DELIVERING SPECIAL OPERATING ADVANTAGES TO THE PAPER INDUSTRY



Jamesbury "Double-Seal" Ball Valves In Operation at St. Joe Paper Co. Port St. Joe, Florida

A complete line of screwed end and flanged ball valves with or without hydraulic, pneumatic, or electric motor operators.

Jamesbury "Double-Seal" Ball Valves give ease of operation, maintenance-free performance, rugged unit body construction, high flow capacity, quarter-turn operation, drop tight shut-off . . . in a variety of pulp and paper services from spent acid lines through to the starch system.



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DISTRIBUTORS IN PRINCIPAL CITIES

quency Report" issued by the association: For all mills combined, the frequency rate has been reduced from 39.99 in 1945 to 4.68 in 1960; six of 43 reporting mills had no disabling injuries and, hence, zero frequency rates in 1960, five mills reported only one disabling injury and six mills had two; of the three Pacific coast states, Washington reported a statewide score 3.29 frequency, a reduction of 33% from the 1959 rate. California's rate was 6.31, down 13% from 1959, while Oregon achieved a 2% reduction to 7.15.

Based on the 1945 frequency rate of 33.34 (recorded in the first year of the annual report program), member mills have eliminated 17,735 theoretical accidents.

In the cumulative injury frequency covering the entire period, 1945-60, Crown Zellerbach's Port Townsend, Wash., mill is the leader with a frequency rate of 5.26. These reductions and records were achieved while the man-hours of exposure rose from approximately 30 million man-hours in 1945 to over 45 million man-hours in 1960. ■

### Member Mills by States Annual Frequency Progress 16-Yr. Period 1945-60

| 1960 Rank No. | States | 1945 | 1950 | 1955 | 1960 |
|---|---|---|---|---|---|
| 1. | Wash. | 35.26 | 9.11 | 5.44 | 3.29 |
| 2. | Calif. | 29.16 | 9.19 | 9.15 | 6.31 |
| 3. | Ore. | 62.01 | 10.27 | 9.07 | 7.15 |
| TOTAL ALL MILLS | | 38.99 | 9.34 | 6.88 | 4.68 |

### Injury Frequency for 1960—Leading 25 Mills

| 1960 Rank No. | Company | Man-Hours Exposure | Frequency Rate |
|---|---|---|---|
| 1. | Pacific Coast Paper Mills, Bellingham, Wash. | 528,971 | 0 |
| 2. | Crown Zellerbach, Lebanon, Ore. | 312,141 | 0 |
| 3. | Rayonier Inc., Olympic Div., Shelton, Wash. | 292,391 | 0 |
| 4. | Coos Bay Pulp Corp., Anacortes, Wash. | 273,,64 | 0 |
| 5. | Georgia-Pacific Paper Co., Toledo, Ore. | 212,576 | 0 |
| 6. | Longview Fibre Co., Seattle, Wash. | 181,481 | 0 |
| 7. | Potlatch Forests, Pomona, Calif. | 1,143,787 | .87 |
| 8. | Crown Zellerbach Corp., Camas, Wash. | 5,242,281 | 1.34 |
| 9. | Crown Zellerbach Corp., Port Townsend, Wash. | 1,216,147 | 1.64 |
| 10. | Fibreboard Paper Products, South Gate, Calif. | 597,509 | 1.67 |
| 11. | Fibreboard Paper Products, Sumner, Wash. | 596,837 | 1.68 |
| 12. | Longview Fibre Co., Los Angeles, Calif. | 431,300 | 2.32 |
| 13. | Western Kraft Corp., Albany, Ore. | 394,868 | 2.53 |
| 14. | Fibreboard Paper Products, Los Angeles, Calif. | 1,381,041 | 2.90 |
| 15. | Crown Zellerbach Corp., Los Angeles, Calif. | 662,362 | 3.02 |
| 16. | Puget Sound Pulp & Timber, Bellingham, Wash. | 973,771 | 3.08 |
| 17. | Crown Zellerbach Corp., Port Angeles, Wash. | 1,295,415 | 3.09 |
| 18. | Weyerhaeuser Co., Everett, Wash. | 1,268,811 | 3.15 |
| 19. | Scott Paper Co., Everett, Wash. | 3,100,541 | 3.23 |
| 20. | Fibreboard Paper Products, Antioch, Calif. | 1,155,863 | 3.46 |
| 21. | Weyerhaeuser Co. Longview, Wash. | 2,223,205 | 3.60 |
| 22. | Weyerhaeuser Co., Cosmopolis, Wash. | 546,934 | 3.66 |
| 23. | Rayonier Inc., Port Angeles, Wash. | 961,059 | 4.16 |
| 24. | Simpson Paper Co., Everett, Wash. | 1,709,475 | 4.68 |
| 25. | Longview Fibre Co., Longview, Wash. | 3,378,755 | 4.74 |

### Cumulative Injury Frequency—15 Yr. Period, 1946-60—First 10

| Rank No. | Company | Man-Hours Exposure | Frequency Rate |
|---|---|---|---|
| 1. | Crown Zellerbach Corp., Port Townsend, Wash. | 20,523,251 | 5.26 |
| 2. | Crown Zellerbach Corp., Camas, Wash. | 76,638,610 | 5.52 |
| 3. | Fibreboard Paper Products, Los Angeles, Calif. | 20,673,199 | 6.19 |
| 4. | Crown Zellerbach Corp., Lebanon, Ore. | 5,467,453 | 8.05 |
| 5. | Fibreboard Paper Products, South Gate, Calif. | 8,426,587 | 8.31 |
| 6. | Rayonier Inc., Port Angeles, Wash. | 16,498,890 | 8.55 |
| 7. | Crown Zellerbach Corp., Port Angeles, Wash. | 19,416,572 | 8.76 |
| 8. | Fibreboard Paper Products, Antioch, Calif. | 25,763,541 | 9.16 |
| 9. | Fibreboard Paper Products Corp., Sumner, Wash. | 9,227,211 | 9.32 |
| 10. | Fibreboard Paper Products Corp., Portland, Ore. | 7,085,084 | 9.88 |



# Potlatch adds new coated board

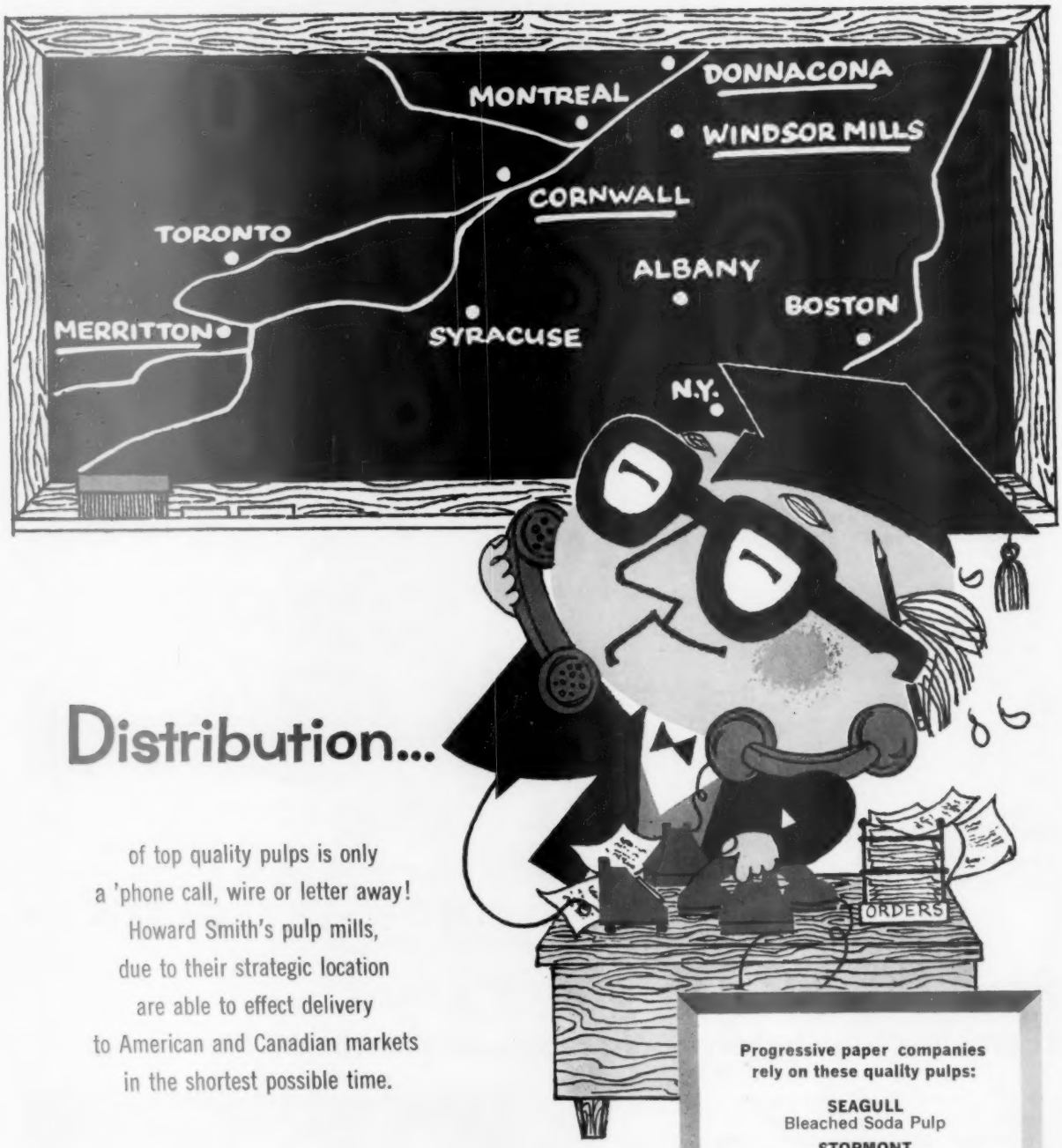
## Economical high barrier board produced with saran-type coating

LEWISTON, IDAHO—Paperboard has just gained a sharper competitive edge in its battle for packaging markets with plastics and aluminum.

Pioneering with this new product is Potlatch Forests, Inc., which is now coating paperboard with a vinylidene chloride (saran-type) emulsion called Daran. This results in coated paperboard that is said to have high moisture resistance and almost total grease resistance. "What's more," says V. V. "Val" Vallandigham, vice president i/c pulp and paper operations, "the

END PRODUCTS made from Daran-coated paperboard are examined by V. V. Vallandigham (left), vice pres. and Jon Lafrenz, sales mgr.

# Professor Pulp says,




## Distribution...

of top quality pulps is only
a 'phone call, wire or letter away!
Howard Smith's pulp mills,
due to their strategic location
are able to effect delivery
to American and Canadian markets
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**Progressive paper companies rely on these quality pulps:**

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new product is priced low enough to compete in fields now served by more expensive materials."

**Economic advantages stem** from the successful U.S. development of a saran-type polymer in a water-base emulsion suitable for coating by the Dewey and Almy Chemical Div. of W. R. Grace & Co. Previously, this and other plastics have been laminated to paper in film or extruded onto paper after the paper has been made. The new material can be applied economically as the paper comes from the machine.

The new board attains the commonly-used moisture vapor transmission rate of 1.0 grams/100 sq. in. 24 hours at a film weight of only 7 lbs./ream. At 10 lbs./ream, the MVTR is slashed 50% to .5 grams. At the former weight, says Potlatch, the paperboard should find ideal use in packaging for such products as bakery good, detergents and dog food. At the .5 grams permeability, materials should be suitable for powdered soups and cake mixes.

The coated board has a pleasing, satin finish and its gloss can be varied by calendering. Printability is good. The coated surface heat seals face to face at 275° to 325°F. The board is notable for its high abrasion resistance because of the inherent toughness of the film. Coating is clear and very stable in the presence of heat and light.

**Potlatch sees application** for Daran-coated board in many fields. In food, packaging potentials run from cookies, cereals and dehydrated soups to milk; from fresh and frozen foods to sauces and syrups. For industrial applications, the range is from motor oils to cement, fertilizer, seeds, chemicals, photographic film and pharmaceuticals. In specialty packaging, these high barrier papers may be used for packaging cosmetics, tobacco and soap.

Potlatch's initial production is expected to be used in such end products as bakery boxes and display sheets and meat trays. In bakery packaging the board will provide an economic material that will not show grease stains. In meat trays, the board will remain impervious to the damaging effects of meat juices for long periods of time.

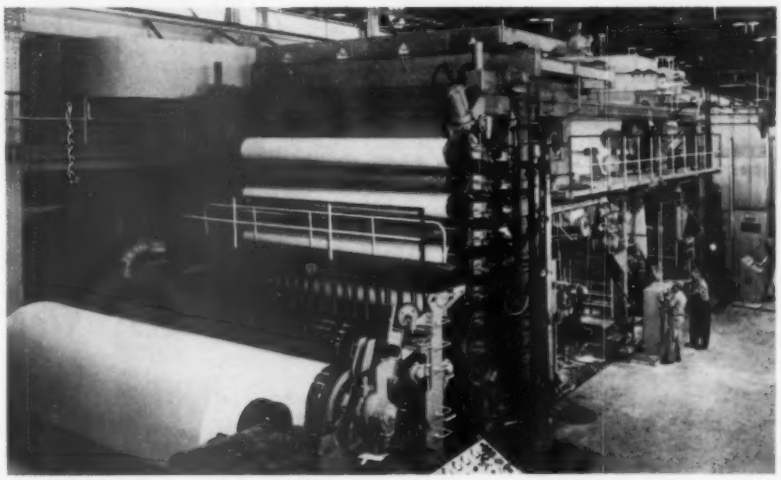
The new materials derive part of their advantages from the relatively thin, hence inexpensive, coating necessary to achieve almost total water and grease resistance in contrast to other films or coatings. ■

# Crossett adds on-machine coating

CROSSETT, ARK.—Crossett Paper Mills is now coating bleached foodboard in several stages on its 216-in. cylinder machine. A recently installed Beloit size press applies the pre-coat. A Rice Barton trailing blade coater second-coats the sheet and a Warren-Dilts air knife is used for a final coat.

End products for this coated board are milk cartons, ice cream cartons and frozen food containers. Reporting on several months operating results, Manager J. C. Hair told PULP & PAPER, "This equipment arrangement is very efficient in controlling blade streaks and blemishes, levelness of surface and coating weight. Combined with the flexibility of our modern cylinder machine and the controlled use of hardwood and softwood pulp, this new coater is outstanding in the food packaging field."

Capacity of the cylinder machine is 160 tons/day. The foodboard mill began operations in 1956. ■



ON-MACHINE COATING STATION at Crossett's foodboard mill provides trailing blade coating, high velocity drying, then air-knife coating.

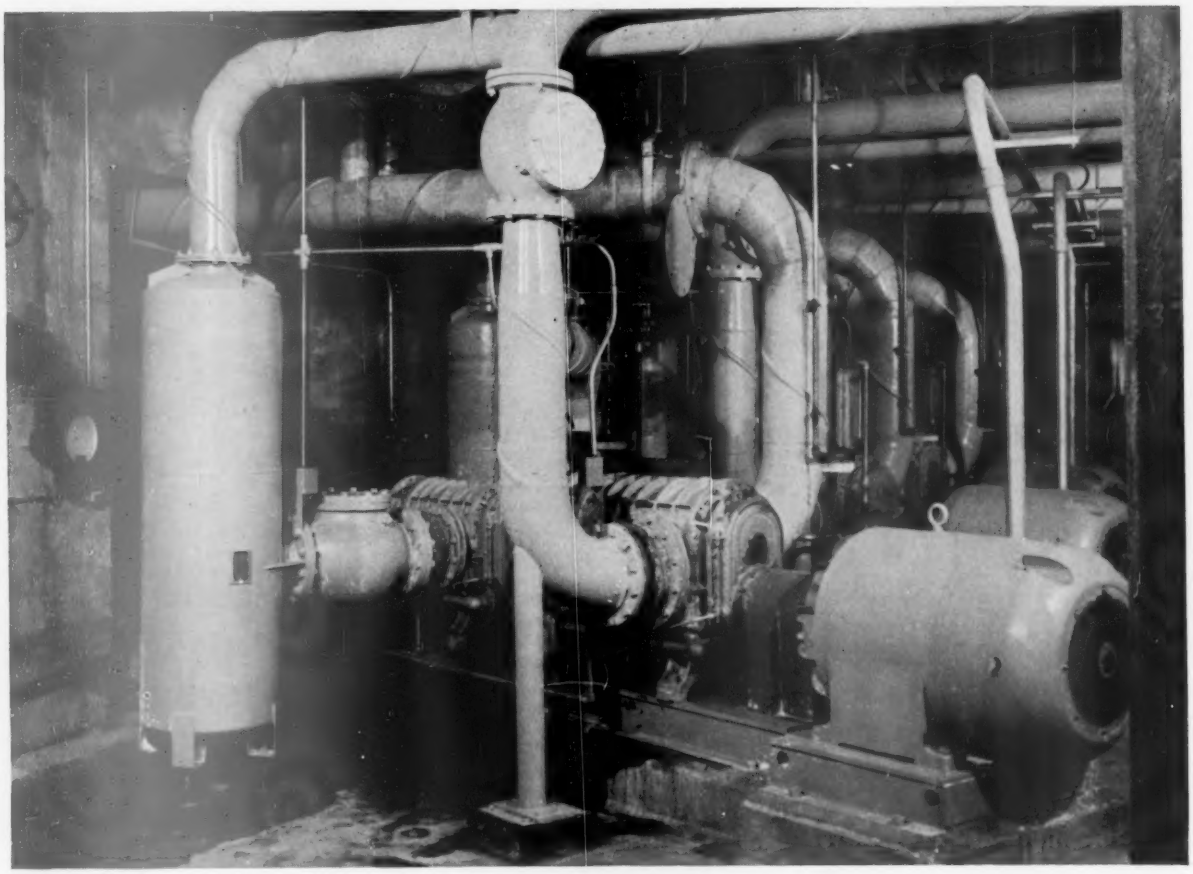
# Rothesay newsprint mill still active

ST. JOHN, N.B.—The newsprint mill projected by Rothesay Paper Corp. here in St. John has not been abandoned, says the company. Although the original mill site has been expropriated by the New Brunswick provincial government, the federal government has entered an injunction that the area belongs to Canada and cannot be expropriated by a province.

The proposed mill has already been engineered and designed so that construction can quickly begin once a site is settled on. Basic financing has reportedly been solved by the parent company, Sogemines Ltd., and "four very substantial and highly reputable partners, including Fraser Cos. Ltd. and a U.S. firm," says a report from American Newspaper Publishers Assn.

No unusual financing problems with senior financing are expected provided that 15-year newsprint sales contracts are available in sufficient quantities to cover costs. Firm dates for construction and production are expected to be issued soon. ■

# FABRICATED TO FIT THE NEED



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## Other expansion developments in the news

**Kimberly-Clark Corp's.** new coated book paper machine is scheduled for startup sometime in 1962 at its Niagara, Wis. mill. With a 168-in. wire, it is designed to operate at speeds of 2,000 fpm. Production of the mill when the fourth machine is added will be about 500 tpd of coated book papers.

**Appleton Coated Paper Co.** has completed its modern finishing building which houses trimming and packaging operations. One wall of the 100-ft. by 200-ft. building is of glass block for better lighting and 100-ft.-candles of fluorescent lighting augment the natural lighting. Automation is keynote of all materials handling equipment. The four trimmers, up to 105-in. knife trim, have hydraulic skid lifts allowing sliding paper onto air float tables where papers are automatically fed to back of trimmers.

**Wabash Fibre Box Co.,** a division of The Weston Paper and Mfg. Co. has started up its new 50,000 sq. ft. corrugated box plant at Fort Wayne, Ind.

Two Canadian companies are surveying Surinam, Dutch Guiana, for interests planning a pulp mill there. C. D. Schultz & Co., Vancouver, B.C., is studying forestry problems in association with Stadler-Hurter Intl. Ltd. which is checking engineering details.

Building one or two more pulp mills in British Columbia's interior would help solve problems of economic wood use, says B.C's. Minister of Forests Ray Williston. For the first time in several years, the interior lumber industry had lagged behind the Coast in percentage gains in production. He said this is partly because coastal mills can make fuller use of the whole log. The interior mills, producing lumber and some plywood, but nothing else, have no profitable outlet for their wood residue. However, a group of sawmills in the Kamloops district recently installed chipping facilities and are shipping chips by rail to Crown Zellerbach Canada's coast mills—estimated 80,000-100,000 units this year.

As an incentive to new mills it is proposed to assure raw material supply by re-defining pulpwood harvesting areas within boundaries of established sustained yield units and providing long term commitments. ■



# JFK farm message hits seven forestry points

WASHINGTON, D.C.—President Kennedy's second major message containing recommendations on forestry was his "farm message" delivered to Congress on March 17. This largely covered the problems and programs of the Department of Agriculture, which includes the U.S. Forest Service. The first forestry-oriented proposals presented by the President were contained in his "natural resources message" centering on activities of the Department of the Interior. A commentary on this first message was carried in March 20 PULP & PAPER ("White House Report," p. 43).

Mr. Kennedy outlined a 7-point legislative program which touched briefly on the vital issues of present-day American forestry. He said, "One of our most important natural resources, and one of our most neglected, is our forest land. We need to give special emphasis to the improvement of the 256 million acres of small, privately owned farm woodlands, and other small forests. This is an important sector of our agricultural economy in which the rate of progress and production is far from satisfactory.

Three of the President's seven points apply specifically to the small-owner category: (1) Acceleration through a larger federal grant of present federal-state cooperative assistance program for application of scientific forestry techniques; (2) Emphasizing of incentive cost-sharing programs for tree planting, timber stand improvement and other practices under the Agricultural Conservation program; and (3) Establishment of management and marketing forest cooperatives.

**Of special interest to industry** are these points: (1) Rejuvenation of USFS' long-range program for development and improvement of the national forests; (2) Increasing the federal government's share in forest protection—in combatting of fire, insect and disease losses; and (3) Expansion of forestry research—"too long neglected."

The seventh point, not mentioning by name any groups or classes of landowners, recommended expansion of "tree planting funds, in order to make productive 50 million acres that will not restock naturally within a reasonable time, and to increase the timber stand on another 100 million acres."

Mr. Kennedy's urging of expanded forestry research and of increased protection against forest fires and forest pests is interpreted by industry sources as an important step. Industry foresters have been urging additional federal financial support, for example, of research and control in the field of animal damage to forests. Significant increases in forest pest depredations in many parts of the country point up the need for a continually efficient detection and control program covering all classes of ownership. Fire research and stepped-up protection represent another field in which all forest owners, public and private, benefit. ■

# Better ways to control weed trees

PORTLAND, ORE.—"Weed trees and brush are reducing the production capacity of more than 60 percent of the forest lands of Western Oregon at present." This is reported by an Oregon State College School of Forestry group conducting chemical-controls research aimed at alleviating the problem. This work, according to George Barnes, asst. director of forest research div., and Michael Newton, research forester, . . . **turn to p. 25**

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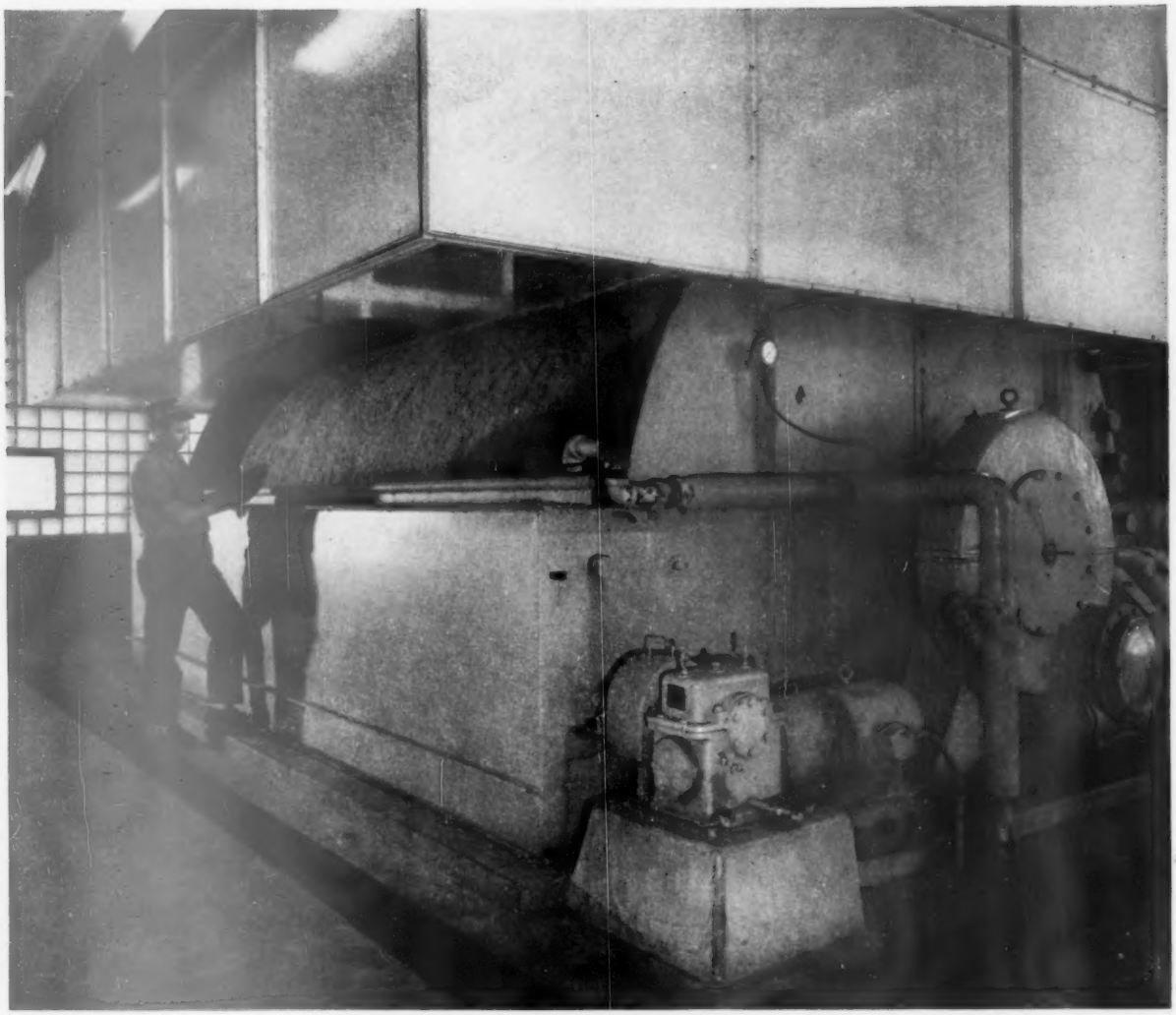

# EXTRA-CLEAN PULP--UNUSUALLY LOW DILUTION

Essential to the economical production of quality paper, a well-washed pulp with low dilution is mandatory at Thilmany Pulp and Paper Company.

That's why the Kaukauna, Wisconsin papermaker relied on Swenson to provide the washers that furnish clean pulp at the lowest possible dilution. Now, with its line of Swenson 4-drum, 5-stage brown stock washers, Thilmany reports improved performance . . . *and* marked reductions in operating costs accompanied by an increase in quality of paper.

Long-time favorites, Swenson Pulp Washers are designed and engineered specifically for brown stock washing. Send for your copy of the interesting new color Bulletin 243, "Processing Profiles"—a tour of Swenson Processing Equipment in action at Thilmany and many other installations.

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**continued from p. 21** . . . shows promise for "greatly reducing" present losses.

Results obtained by application of recently developed herbicides indicate that control of vine maple and bigleaf maple—noxious trees in this area—may be economically feasible. Although large maple trees are not readily killed by aerial application of conventional chemicals, more effective methods have been developed. Individual stem treatment of bigleaf maple, using 2,4,5-TP chemical in diesel oil carrier as a basal spray, has proved encouraging. Applications made during Apr.-Sept. season met with considerable success. Vine maple of small size has been killed back to the ground by aerial application of 2,4,5-T at a rate of 4 lbs. per acre, according to Dr. Barnes.

In subjecting Oregon white oak to many of the same treatments tried on the maples, difference in sensitivity was noted. The most practical treatment for the oak is 2,4-D amine in axe cuts.

Participants in this research program feel the day when brush fields can be completely controlled by a single spray application is "close at hand." For developing practical aerial-spray methods of treating large weed trees, they advocate further studies of tree physiology, metabolism and translocation. ■

# Indian reservation is new national forest

PORTLAND, ORE.—A new national forest came into being on April 1 with the transfer of 525,700 acres of Klamath Indian Reservation lands to the U.S. Forest Service. To be known as the Winema National Forest, the USFS purchase accounts for a major share of the lands covered by a 1958 federal act providing for selling the tribal area to reimburse members withdrawing from the Klamath tribe in southern Oregon—on the east side of the Cascade Range in the Western Pine Region.

About 617,000 acres were offered for sale; 145,000 acres were retained for Indians remaining in the tribe. Crown Zellerbach Corp. previously had purchased a 91,539-acre unit (appraised at $1,636,000). The USFS acquired lands represent the remainder. (Headquarters for the Winema NF will be in Klamath Falls, Ore.)

The new national forest lands will be paid for by special funds totaling $68.7 million to be appropriated by Congress. ■

# Forest pest group makes progress

PORTLAND, ORE.—Foresters and nurserymen throughout the Pacific Northwest are concerned over appearance of an insect which could wreak havoc in the region's important pine forests and ornamental plantings.

At its 12th annual meeting in Portland, the Northwest Forest Pest Action Council called for detailed surveys of areas infested by the European pine shoot moth—a pine tree crippler—and for action to stamp out the pest before it establishes a foothold in native timberlands.

Infestations of the moth are noted in nurseries or gardens of seven Washington communities and have been found in Portland. Known in British Columbia and eastern parts of U.S. for years, the insect was first found in western states last year by a Seattle gardener.

Otherwise the Pacific Northwest had its best year in a decade in man's fight against forest insect enemies. The council heard reports that acreage of insect infestation has fallen to a 10-year low of 1,250,000 acres, compared to a high for the period of 8,400,000 acres in 1953. ■

# Found: non-burning fertilizer

NEW YORK—W. R. Grace & Co. has announced a new fertilizer which can be applied directly to bare roots of trees. This non-burning fertilizer is a magnesium ammonium phosphate compound and was developed especially for the forestry industry.

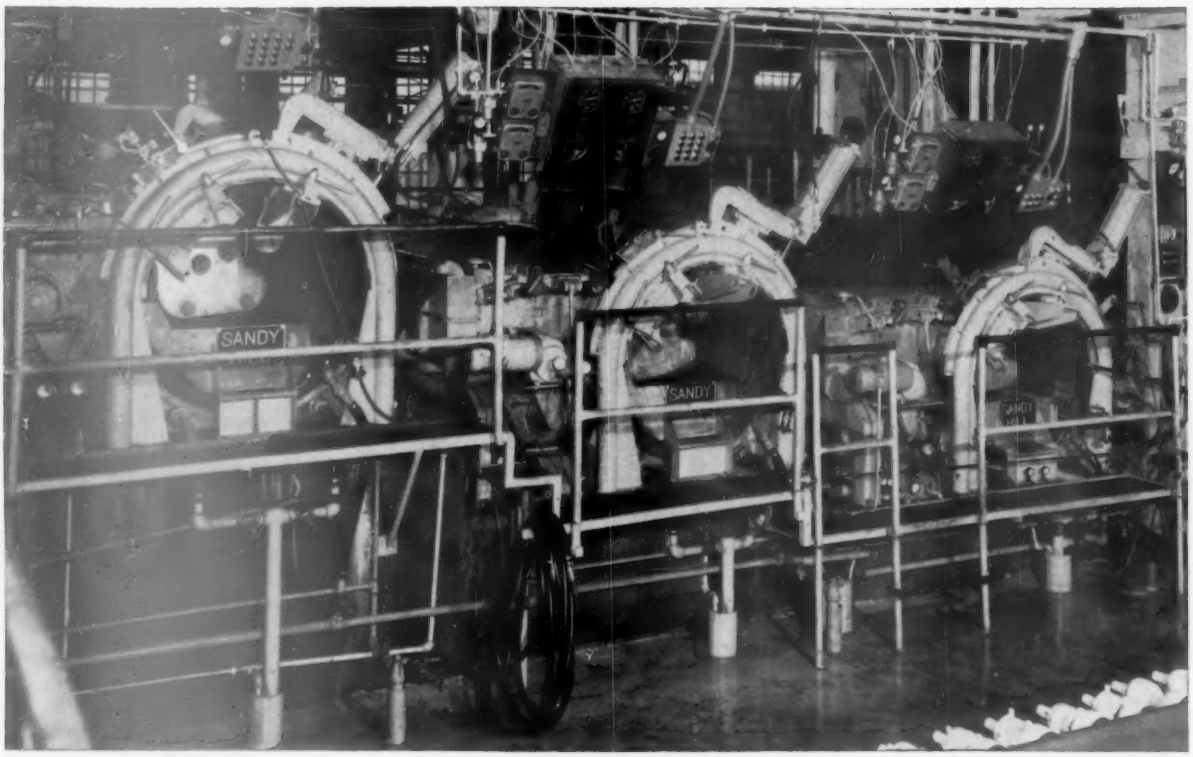
Grace's research division at Clarksville, Md., has been applying the fertilizer to trees for the past three years. During this period seeds have germinated and have been grown in pure fertilizer materials.

Another major feature is the controlled rate of nutrient release which allows the fertilizer to be tailor-made to meet customer needs.

After a one year growing season, seedlings treated with magnesium ammonium phosphate showed these effects: 85% survival in the Lombardy poplar compared to 46% unfertilized. Red pine quadrupled new growth over the unfertilized and the balsam fir doubled new growth over unfertilized seedlings of the same variety. ■

## An error is corrected

A "typo" error—one of the kind that gives editors gray hairs—cropped up in our White House report, page 43, Mar. 20 issue—but, fortunately, many readers probably would not need to be told. The article starts off by saying President Kennedy demanded federal intervention to halt water pollution. But under Point 3, on the same page, it says he "does *not* favor federal action to halt pollution of interstate waterways." Of course, he DOES! As the entire article really makes clear. He favors federal action on "intrastate waterways" only with approval of the governors concerned.

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# St. Regis changes at Tacoma, Rhinelander

NEW YORK—Dr. William R. Haselton, now vice president and general manager Rhinelander Paper Co. Div., St. Regis Paper Co., and graduate of the Institute of Paper Chemistry, succeeds Jack M. Lamb as general mgr.—Tacoma, Wash. area operations, when Mr. Lamb retires June 30. Mr. Lamb continues as a consultant.

Willmer J. Davis, vice pres. i/c sales at Rhinelander, succeeds Dr. Hazelton and he in turn is succeeded as vice pres. by Charles C. Johnson, now sales mgr. at Rhinelander.

S. Kepple Pratt, resident mgr. of the Tacoma pulp and paper mill, becomes mgr. of kraft pulp and paper manufacturing, reporting to John A. McDermott, vice pres. i/c pulp and paper manufacture. Mr. Pratt will headquarter in Jacksonville, Fla. Robert F. Lynch, manufacturing supt. at Tacoma, becomes production mgr. ■

Haselton

Lamb

Davis

Pratt

# Roger Wiewel joins Stora Kopparberg

**Roger N. Wiewel, district manager, Stora Kopparberg**

NEW YORK—For the past three years Mr. Wiewel has been manager, New England pulp sales for Weyerhaeuser Co. He now joins Stora Kopparberg as district manager-pulp sales, according to Robert L. Nash, vice pres.

Mr. Wiewel will be responsible for pulp sales in the northeastern U.S. from Stora's new pulp mill now being constructed by its affiliate, Nova Scotia Pulp Ltd., on Cape Breton Island, Nova Scotia, in addition to Stora's pulp grades from Sweden.

Mr. Wiewel joined Weyerhaeuser's engineering department in 1952, served as kraft mill shift superintendent before entering pulp sales. He graduated from Carnegie Institute of Technology and Harvard School of Business Administration. ■

# Riordan Sales names two vice presidents

NEW YORK—Riordan Sales Corp. Ltd., has appointed two vice presidents. Riordan Sales Corp. is a subsidiary of Canadian International Paper Co., and is responsible for marketing the dissolving and paper pulps produced by that company and International Paper Co.

Cecil E. MacDonald is a graduate in chemical engineering from McGill University and joined Canadian International Paper Co. in the newsprint manufacturing dept. in 1946. He transferred to Riordan in 1958.

Donald F. McCall, a graduate of Dartmouth, joined International Paper in May, 1960 after several years executive experience in pulp and paper in the East and on the West Coast.

The announcements of the two new vice presidents were made by C. E. F. Jones, president. ■

McCall

MacDonald

# STRICTLY PERSONAL . . .

## Midwest

**Dale Crippin,** president of Bond-Sanders Paper Co., Nashville, Tenn., was recently named president of Wertgame Paper Co., Kansas City, Mo. Succeeding him as president of Bond-Sanders will be **M. H. "Bud" Chamberlain, Jr.,** who has been vice pres. and general sales mgr. since 1959. Both firms are merchandising subsidiaries of The Champion Paper and Fibre Co.

**Owen W. O'Neill** is new chemical sales supervisor of A. E. Staley, it is announced by **Lyle C. Woods,** chem. dept. mgr. Mr. O'Neill joined Staley early last year as a management trainee.

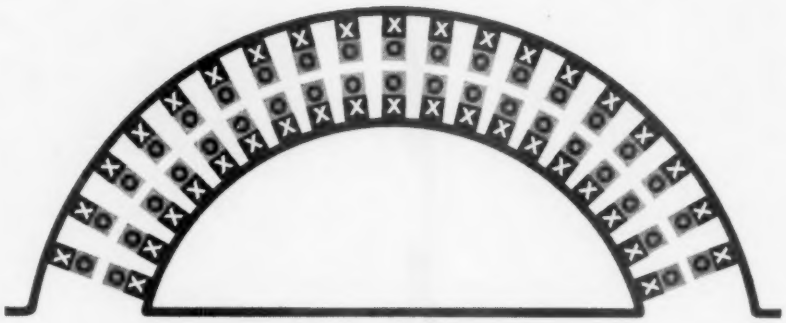
**Dr. John R. Fanselow,** assoc. professor of paper technology and member of Western Michigan Univ. faculty since 1957, becomes acting department head, replacing **Dr. A. H. Nadelman,** who has resigned. After earning degrees from Ellsworth College, Univ. of Chicago and Univ. of Wisconsin, Dr. Fanselow joined Kimberly-Clark Corp., in 1930. He started as supt. of research and retired in 1957 as asst. to the manager of mills.

**Walter G. Aagaard** has been named manager of midwest board sales for Weyerhaeuser's pulp and paperboard division, according to **Rodger C. Derby,** recently named manager of board sales. Mr. Derby will coordinate the activities of Mr. Aagaard and **Donald H. Seixas,** manager of western . . . **turn to p. 83**

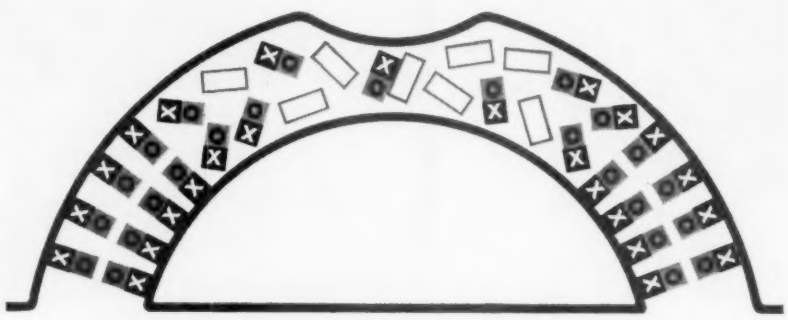
# The make-up and break-up of foam

Foam, of course, is made up of bubbles. But, all bubbles do not form foam. For instance, pure water will not foam. If you take a glass or a beaker of pure water and bubble air through it, the bubbles will be large and will rapidly rise to the surface and burst. Several smaller bubbles may even join together and rise to the surface. But even these burst at the surface. There is no tendency to form foam.

Now, add just one drop of detergent—a surface active material—to this same water, blow air through it and foam develops. The bubbles are relatively small and there is no tendency to coalesce. This foam-causing difference is due to the surface activity of the detergent molecules.



**Bubble Cross-section**



**Bubble with Defoamer Added**

### The Make-Up of Foam

Each surface-active molecule has a "water-loving" end and a "water-hating" end. These molecules arrange themselves in an orderly fashion in the liquid film of the bubble with their "water-hating" ends toward the film surfaces and their "water-loving" ends buried in the liquid interior of the film. It is this arrangement of molecules that gives strength and elasticity to the bubbles and keeps them from bursting.

### The Break-Up of Foam

Anti-foam agents act either by completely displacing the surface film or by modifying its film-forming properties so that it no longer forms a stable foam. Therefore, a good defoamer must be capable of entering the liquid interior of the bubble film and modify or break-up the molecule arrangement that sustains the bubble film. Thus, since the defoamer only has to work on only a small quantity of surface active material, only a relatively small amount of defoamer is needed.

### What Causes Paper Mill Foam?

Some impurity, intentional or otherwise, must be present before foam can be produced. The most persistent foams are produced when the impurity is a surface active material such as carbohydrates, lignin, dyes, black liquor soaps, slimicides, sizes, etc. Since a foam condition can be caused by any one—or several—of these materials, no single defoamer will fill all needs economically. Houghton's "Personalized Paper Mill Service" was instituted to provide this "diagnosis and curative" service with proven De-Airex defoamers. If you have a foam problem in your mill, call your Houghton man or write and request this technical help. It's yours for the asking and may save you untold headaches and expense. E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

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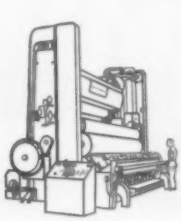
**a team of specialists**

AA-390



**Cameron Machine Company, Franklin Road, Dover, N. J.**

Canada: Cameron Machine Co. of Canada, Ltd., 14 Strachan Ave., Toronto, Ont.
France: Cameron Europe S/A, 5 Rue de Prony, Paris (17e) France
Brazil: Cameron Maquinas Ltda., Rua 24 de Maio, 104-5°, Sao Paulo, Brasil
famous TIDLAND pneumatic shafts are sold exclusively through Cameron

**INTEGRATED ROLL PRODUCTION SYSTEMS** **UNWINDS, SLITTERS, WINDERS, WEB CONTROLS**

at Valley we make it
our business to develop equipment
to help you **REDUCE YOUR COSTS**

Newly designed Valley Portable Roll Header with electrically heated heads. This mobile unit can "head" rolls at any number of locations, thus saving costly roll handling and moving operations. This is another example of a specially designed and engineered piece of equipment to meet the requirements of a customer and to aid in reducing costs.

in more and more
finishing departments,
as throughout the paper mill,
it's equipment by . . . .

**VALLEY**

**IRON WORKS CORPORATION**
Subsidiary of Allis-Chalmers Manufacturing Co.
Appleton, Wisconsin

West Coast Representative: E. A. Berry, P.O. Box 958, Longview, Washington
Canadian Representative: Pulp and Paper Mill Association Ltd., P.O. Box 850, Station "O", Montreal 9, Quebec

# MEETINGS

## . . . April

**New York State Canadian Div. PIMA,** spring meeting, Eastman Kodak Co., Rochester, N. Y.—Apr. 21

**University of Maine,** Open House, Orono, Maine—April 28-29

## . . . May

**Pacific Coast Div. PIMA,** joint meeting with Tappi, CPPA, Harrison Hot Springs Hotel, Harrison Hot Springs, B. C.—May 4-6

**TAPPI and the Instrument Society of America** Pulp & Paper Instrumentation Symposium Northland Hotel, Green Bay, Wis.—May 10-12

**National Paperboard Assn.,** Fairmont Hotel, San Francisco, Cal.—May 10-12

**Pennsylvania-New Jersey-Delaware Div. PIMA,** spring meeting, Yorktowne Hotel, York, Pa.—May 11-13

**Connecticut Valley Div. PIMA** spring meeting, Woronoco Park, Woronoco, Mass.—May 18

**Michigan Div. PIMA,** joint recognition night with TAPPI, Gull Harbor Inn, Richland, Mich.—May 25

**Institute of Paper Chemistry** Executives' Conference, Appleton, Wis.—May 25-26

## . . . June

**CPPA** conference on Chemical Pulping and Bleaching, Saranac Inn, New York—June 7-9

**PIMA** National Meeting, Hotel Robert Meyer, Jacksonville, Fla.—June 7-9

**Institute of Paper Chemistry,** Sixth Seminar, Appleton, Wis.—June 11-30

**Kalamazoo Valley Section TAPPI** fun night, Gull Lake Club, Kalamazoo—June 20

**Zellcheming,** Germany's annual technical meeting, Baden-Baden, West Germany —June 27-30

## . . . August

**TAPPI** Lignin Symposium, Edgewater Beach Hotel, Chicago—Aug. 14-16

## . . . September

**TAPPI,** 11th Corrugated Containers Conference, St. Francisco Hotel, San Francisco, Calif.—Sept. 6-8

**CPPA, TAPPI,** Fourth International Mechanical Pulping Conference, Edgewater Beach Hotel, Chicago—Sept. 19-21

**British Paper and Board Makers Assn.,** International Fiber Bonding Symposium, Oxford, England—Sept. 25-29

## . . . October

**TAPPI Annual Engineering Conference,** Shoreham Hotel, Washington, D. C.—Oct. 15-19

**Packaging Institute,** 23rd Annual National Packaging Forum, Biltmore Hotel, New York—October 18-22

## . . . November

**TAPPI,** Annual Alkaline Pulping Conference, Rice Hotel, Houston, Texas—Nov. 1-3


# how AMERICAN crane speeds unloading at Eastern wood yard

Using split sling arrangement shown, this AMERICAN crane with 40-foot boom handles 7½ tons (2½ units) of wood in a single lift. As a result, this wood yard unloads cars or trucks in a few short minutes. Not only is yard handling speeded . . . but supplier relationships are improved. That's because truckers spend less time unloading at the mill, have more time to make added hauls from the woods.

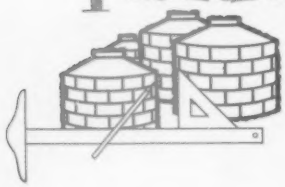
It will pay you to look into the mobility and fast-handling of AMERICAN self-propelled cranes for pulp handling . . . capacities, 12½ to 60 tons. AMERICAN also offers you a complete size-range of crawler, locomotive, and pedestal-mounted cranes. No other single source offers you this wide choice of pulp-handling equipment. It means you can look to us for *unbiased* recommendations, from men who *know* your industry. Why not call in your AMERICAN distributor today — while you're thinking about it — and talk things over.

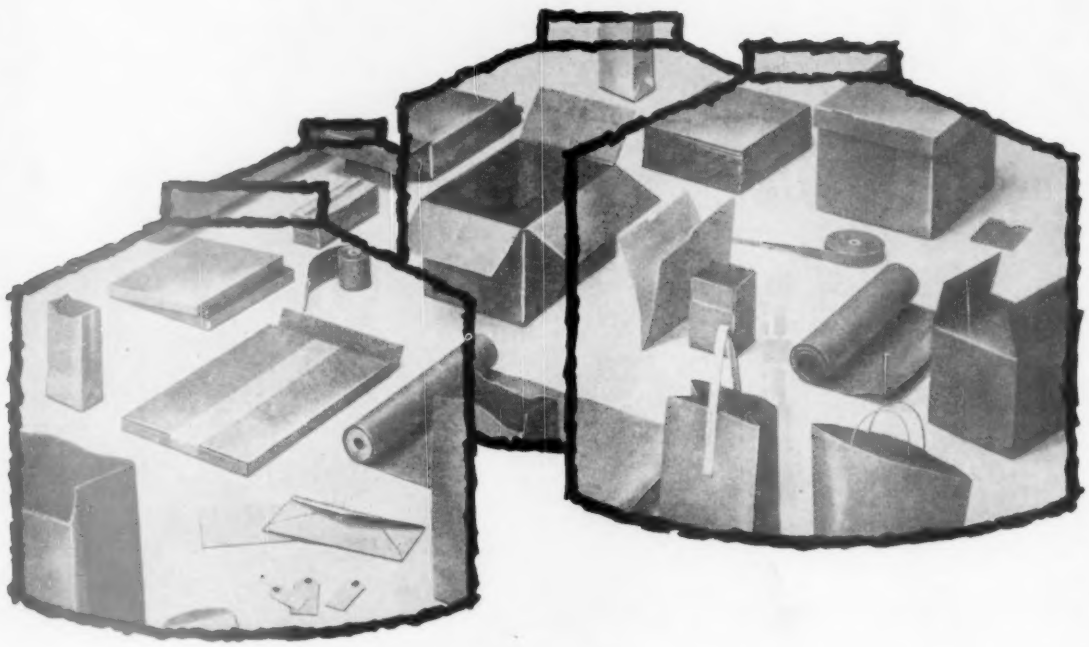
AMERICAN

AMERICAN HOIST and DERRICK COMPANY
ST. PAUL 7, MINNESOTA

WEST END

# advance planning OF ENLARGED SALT CAKE STORAGE ANTICIPATES INDUSTRY'S GROWING NEEDS





WEST END as a major supplier of highest quality natural salt cake programs expansion of its in-plant storage to meet ever-increasing requirements of industry. West End is constantly exploring new solutions to transportation, distribution and handling problems to assure its continuing position as a reliable and economical source.

Stauffer CHEMICALS

**WEST END CHEMICAL COMPANY • DIVISION OF STAUFFER CHEMICAL COMPANY**

636 CALIFORNIA STREET, SAN FRANCISCO, CALIFORNIA • PLANT: WESTEND, CALIFORNIA

POWER
SPEED
COMPACTNESS

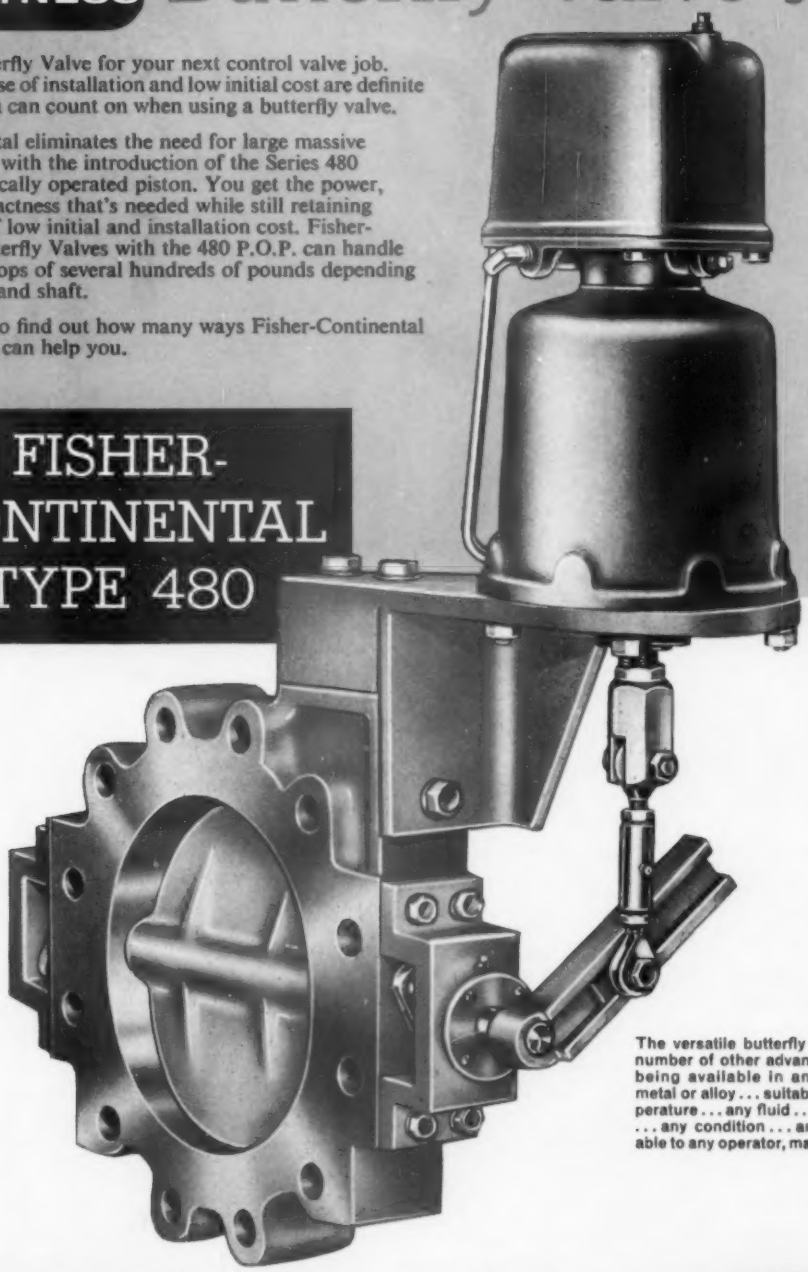
# Fisher-Continental Type 480 will give you all 3 on your next Butterfly Valve Job

Consider a Butterfly Valve for your next control valve job. Compactness, ease of installation and low initial cost are definite plus features you can count on when using a butterfly valve.

Fisher-Continental eliminates the need for large massive power actuators with the introduction of the Series 480 P.O.P. pneumatically operated piston. You get the power, speed and compactness that's needed while still retaining the advantage of low initial and installation cost. Fisher-Continental Butterfly Valves with the 480 P.O.P. can handle high pressure drops of several hundreds of pounds depending on size of body and shaft.

It will pay you to find out how many ways Fisher-Continental Butterfly Valves can help you.

## FISHER-CONTINENTAL TYPE 480



The versatile butterfly valve offers a number of other advantages such as being available in any size... any metal or alloy... suitable for any temperature... any fluid... any pressure ... any condition... and it is adaptable to any operator, manual or power.

IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD... CHANCES ARE IT'S CONTROLLED BY...

**FISHER GOVERNOR COMPANY**

Marshalltown, Iowa / Woodstock, Ontario / London, England

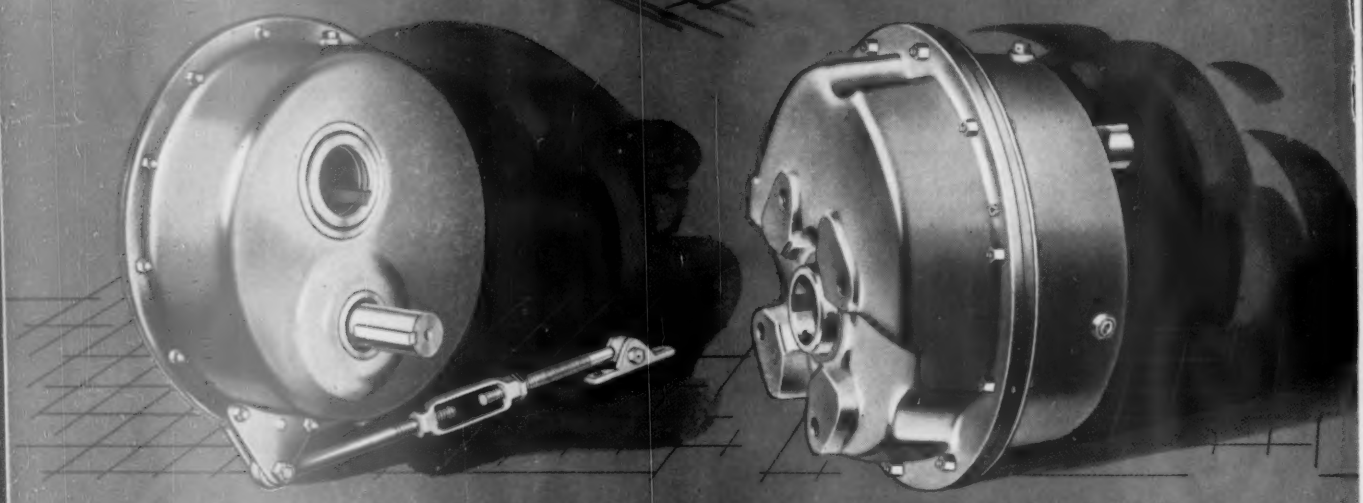
BUTTERFLY VALVE DIVISION: CONTINENTAL EQUIPMENT CO., CORAOPOLIS, PENNSYLVANIA

FISHER® Controls

SINCE 1880

# FALK

A GOOD NAME IN INDUSTRY



*Ask for Bulletin 7100*

*Ask for Bulletin 7100*

## 147 COMBINATIONS . . . horizontal or vertical applications . . . . . .

| UNIT SIZE | SHAFT MOUNTED DRIVES | | | | | |
|---|---|---|---|---|---|---|
| | RATIOS | | | MOTOR MOUNT | OVERLOAD RELEASE | BACK-STOP |
| | 4 | 14 | 24* | | | |
| 107J | X | X | X | X | X | X |
| 115J | X | X | X | X | X | X |
| 203J | X | X | X | X | X | X |
| 207J | X | X | X | X | X | X |
| 215J | X | X | X | X | X | X |
| 307J | X | X | X | X | X | X |
| 315J | X | X | X | X | X | X |
| 407J | | X | X | X | X | X |
| 415J | | X | X | X | X | X |
| 507J | | X | X | X | X | X |

½ to 125 hp. Up to 100,000 lb-in. torque *20:1 ratio for sizes 107 and 115

| UNIT SIZE | FLANGE MOUNTED DRIVES | | | | | |
|---|---|---|---|---|---|---|
| | RATIOS | | | | BACK-STOP | MOTOR MOUNT |
| | 4 | 9 | 14 | 24* | | |
| 107J | X | X | X | X | X | X |
| 115J | X | X | X | X | X | X |
| 203J | X | X | X | X | X | X |
| 207J | X | X | X | X | X | X |
| 215J | X | X | X | X | X | X |
| 307J | X | X | X | X | X | X |
| 315J | X | | X | X | X | X |
| 407J | | | X | X | X | X |
| 415J | | | X | X | X | X |
| 507J | | | X | X | X | X |

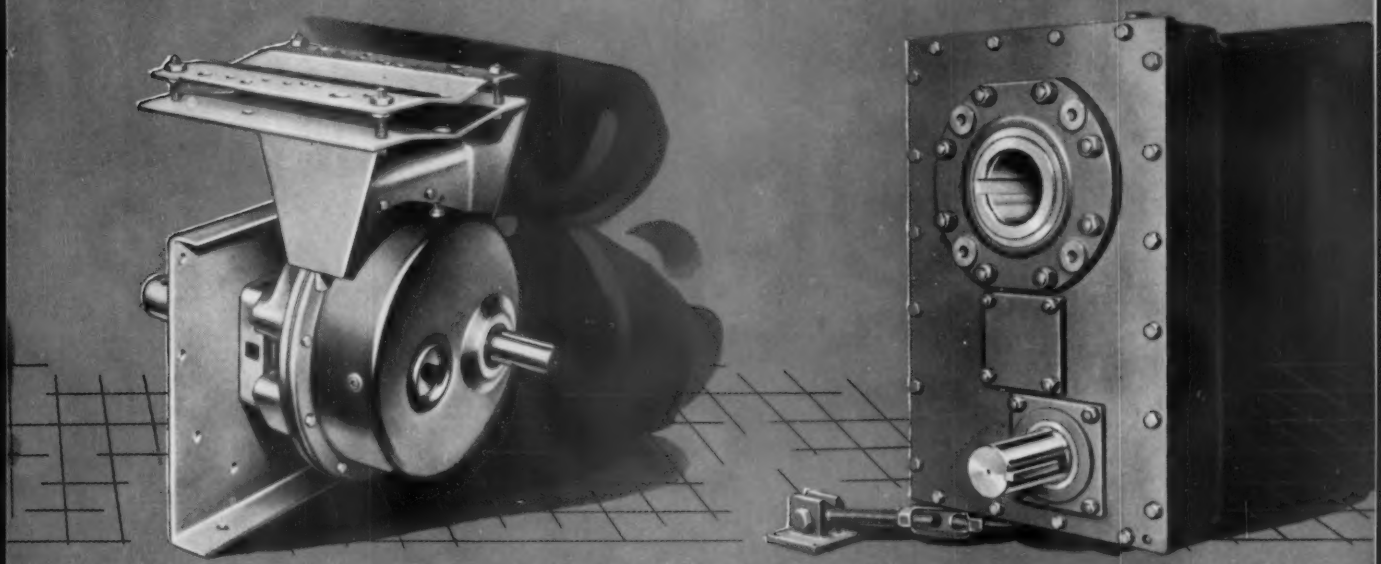
½ to 125 hp. Up to 100,000 lb-in.

***Exclusively* FALK...*Adaptability of all these three types of Falk Drives for use with Equi-Poised Motor Mount.*** This feature reduces costs of engineering and constructing motor bases and foundations.

***Exclusively* FALK...*Interchangeable rotating elements*** size-for-size between Shaft and Flange Mounted Drives or Screw Conveyor Drives. This feature simplifies stocking and maintenance for large users.

# . the most complete line of SHAFT MOUNTED, FLANGE MOUNTED and SCREW CONVEYOR drives . . .

***The line with the exclusive EQUI-POISED motor mount***



*Ask for Bulletin 7106*

## . . . . . AVAILABLE FROM STOCK

| UNIT SIZE | SCREW CONVEYOR DRIVES | | | | |
|---|---|---|---|---|---|
| | RATIOS | | | | MOTOR MOUNT |
| | 4 | 9 | 14 | 24* | |
| 107J | X | X | X | X | X |
| 115J | X | X | X | X | X |
| 203J | X | X | X | X | X |
| 207J | X | X | X | X | X |
| 215J | X | X | X | X | X |
| 307J | X | X | X | X | X |
| 315J | X | | X | X | X |
| 407J | | | X | X | X |
| 415J | | | | | |
| 507J | | | | | |

½ to 40 hp. Up to 44,000 lb-in. torque

***Exclusively*** **FALK... *Single helical* gears used in *all* sizes and types—they provide maximum (98½%) efficiency per gear mesh.**

FALK is a registered trademark

## *New* 2 LARGER SIZES OF SHAFT MOUNTED DRIVES—415-507

**Falk-designed and Falk-built for higher torque requirements, these all-steel, *helical* gear reducers are available in Shaft and Flange Mounted Drive design.**

**TWO RATIOS, 15:1 and 25:1**
**HORSEPOWER RATINGS TO 125**
**TORQUE RATINGS TO 100,000 LB-IN.**

***Ask for*** **Bulletin 7100.1 (Shaft and Flange Mounted Drives) or for Bulletin 7106.1 (Screw Conveyor Drives).**

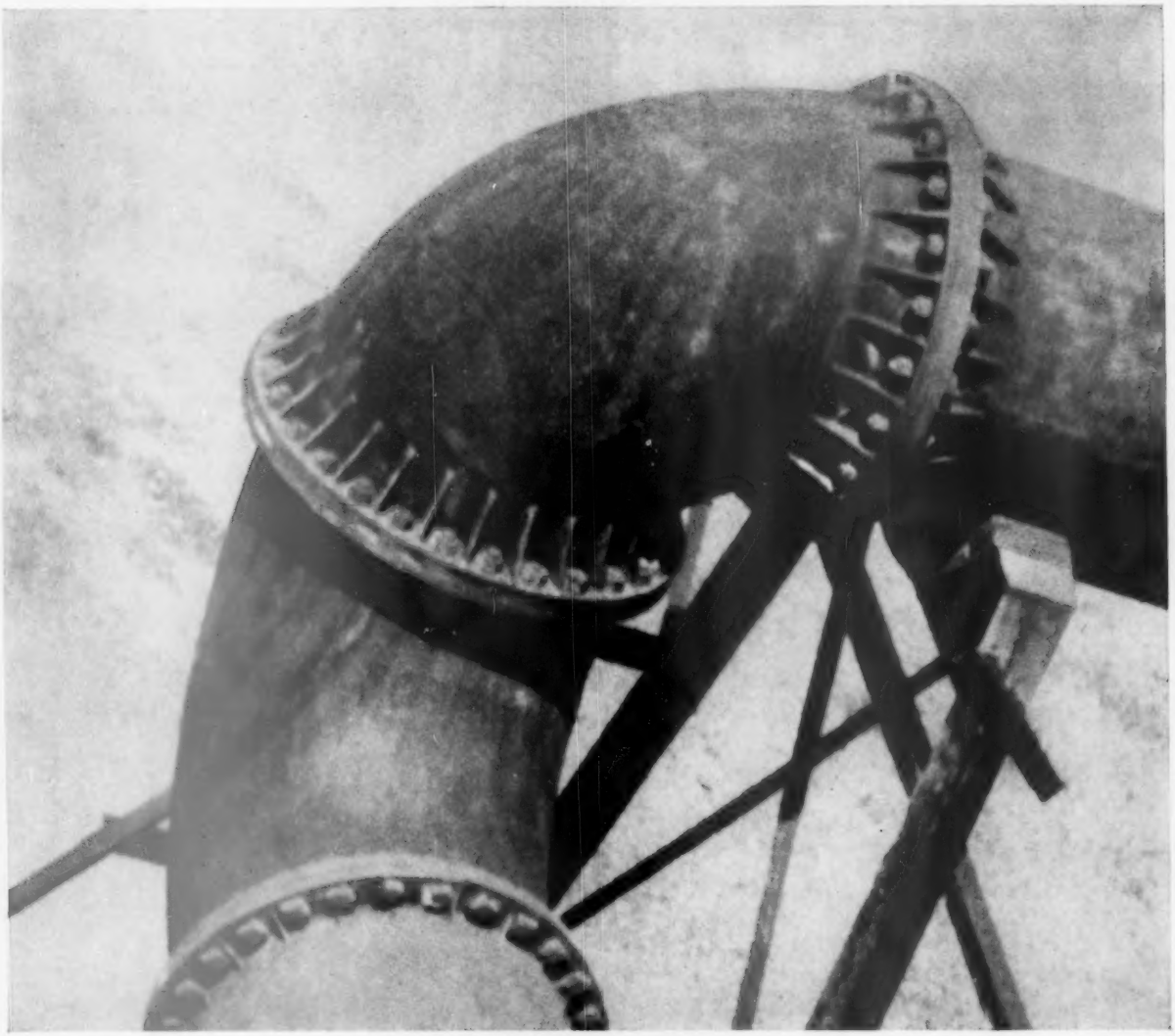
**THE FALK CORPORATION**
**MILWAUKEE 1, WISCONSIN**

***Manufacturers of Quality Gear Drives and Flexible Shaft Couplings***

**Representatives and Distributors in most principal cities**

---

**A POINT TO PONDER...when you need gear drives or shaft couplings of "FALK OR EQUAL" quality, where but from Falk can you get the "OR EQUAL"?**



# Type HH alloy header elbow handles hot $SO_2$ gas for 15 years

**Delivers seven times the service of previous casting at 1800°F**

Hot, corrosive $SO_2$ gas was eating header sections out of sulfur burners every 2 to 2½ years at a sulfite plant operated by one large paper-making company.

Engineers ordered an elbow section cast of type HH* alloy, containing 11 to 14% nickel and 24 to 28% chromium. That was 15 years ago, and the elbow—still in service today—has delivered more than *seven times* the service of previous castings. As a result, engineers at this company have specified type HH alloy replacement sections for their sulfur burners ever since.

**Advantages of nickel-alloyed castings.** Type HH alloy is one of a family of nickel-containing casting alloys that offers special advantages to the pulp and paper industry. These alloys are easily cast into complex shapes, and are readily available from foundries. By providing superior resistance to high temperatures, corrosion, erosion and caustic and acid environments, these nickel-containing alloys help keep maintenance and parts-replacement costs to a minimum.

**Get helpful information** on these nickel-containing alloys and find out how they can improve efficiency and cut costs in *your* plant. Write for the comprehensive, 72-page booklet, "Heat Resistant Castings, Corrosion Resistant Castings... Their Engineering Properties and Applications." Ask for booklet A-266.

*Alloy Casting Institute designation

**THE INTERNATIONAL NICKEL COMPANY, INC.**
67 Wall Street New York 5, N. Y.

# INCO NICKEL

NICKEL MAKES ALLOYS PERFORM BETTER LONGER

## *Now...ordinary groundwood becomes material for better grade papers*

After five years of cooperative effort between Black-Clawson and a leading newsprint manufacturer, the Selectifier® Screen has been fully tested and proved to be unequalled for efficiency in pressurized screening of groundwood pulp.

Now you can control paper quality *in the pulp mill* with precision screening that gives certified cleanliness and fractionated fibers. Other advantages . . . complete automation, totally-enclosed, no foam or slime . . . consistencies of 1½% . . . spiral bevel gear drive *under* the screen.

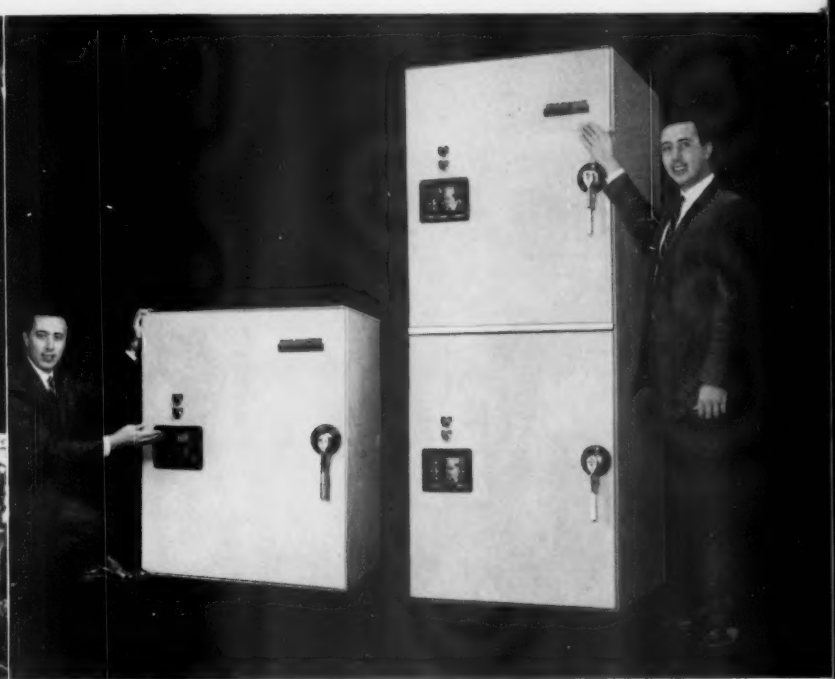
May we give you full test results on this major breakthrough? Contact Shartle Division, Middletown, Ohio, GArden 2-4561.

**SHARTLE DIVISION**
Middletown, Ohio
***COMPLETE STOCK PREPARATION SYSTEMS***

**BLACK-CLAWSON**

# ideas and news:

**Superior moisture resistance proved:** Used for pump service in a low-lying work room of a Connecticut paper company, this Allis-Chalmers motor has repeatedly been under 5 to 6 feet of water. Because it is a Super-Seal motor with tough Poxeal insulation, impervious to moisture, it goes back into service when the waters recede with no time-consuming "bake-out" period.

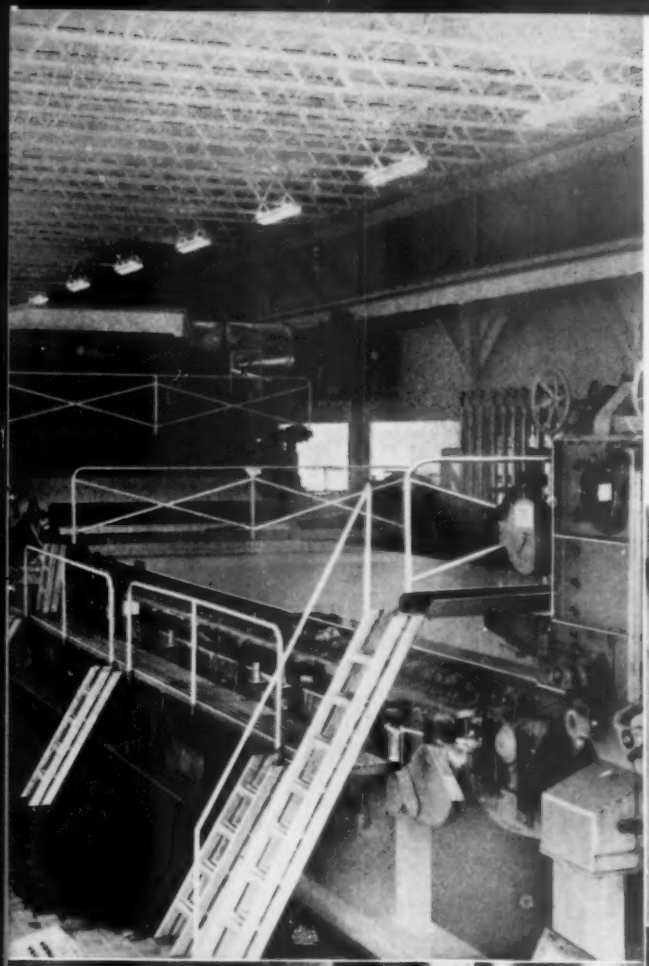


**So low, two fit where one used to go:** This new SpaceMaker control center is the first completely new 2- to 5-kv motor controller development in more than a decade. New compact two-high design can cut floor space requirements in half. Complete drawout construction makes it the safest, most easily accessible controller on the market. New flame-retardent, track-resistant Super Pyro-Shield insulation adds to reliability, reduces size and weight. And, the all-new roll-out contactor has been designed specifically to cut maintenance time and costs.

## Which of these productive ideas could be working for you?

A control unit that saves space. A motor that laughs off floods. These examples demonstrate the extra value that is standard with A-C . . . the greater efficiency and the added productivity which are yours when you buy A-C products, systems and services. Call your Allis-Chalmers representative for details on A-C "worth-more" features. Or write Allis-Chalmers, Industrial Equipment Division, 903 S. 70th Street, Milwaukee, Wisconsin.

*Super-Seal, Poxeal, SpaceMaker and Pyro-Shield are Allis-Chalmers trademarks.* A-1397



**New "king size" machine is extremely versatile:** Typical of the specialized equipment built by our Valley Iron Works subsidiary is this 160-inch glassine paper machine . . . one of the largest of its kind in the world. Running at speeds from 300 to 1200 feet per minute, it will produce up to 109 tons per day.

**How to cut lime costs by 50%:** An Allis-Chalmers lime recovery kiln produces lime from waste lime sludge at half the cost of new lime. Plants in the sulphate pulp industry can recover most of the lime used in liquor processing as well as water softening. Result: Practically no new lime to purchase — No waste lime sludge to dispose of.

**One-man maintenance for new vertical pump.** This redesigned A-C pump provides easy accessibility to internal parts. One mechanic can remove entire rotating element without need of an electrician to disconnect the motors or a pipe fitter to break piping. In addition, vertical design takes 25% less floor space than horizontal units.

**A-C INDUSTRIAL EQUIPMENT DIVISION:** motors, generators, controls, rectifiers, pumps, compressors, crushers, mills, screens, kilns, coolers, industrial systems.

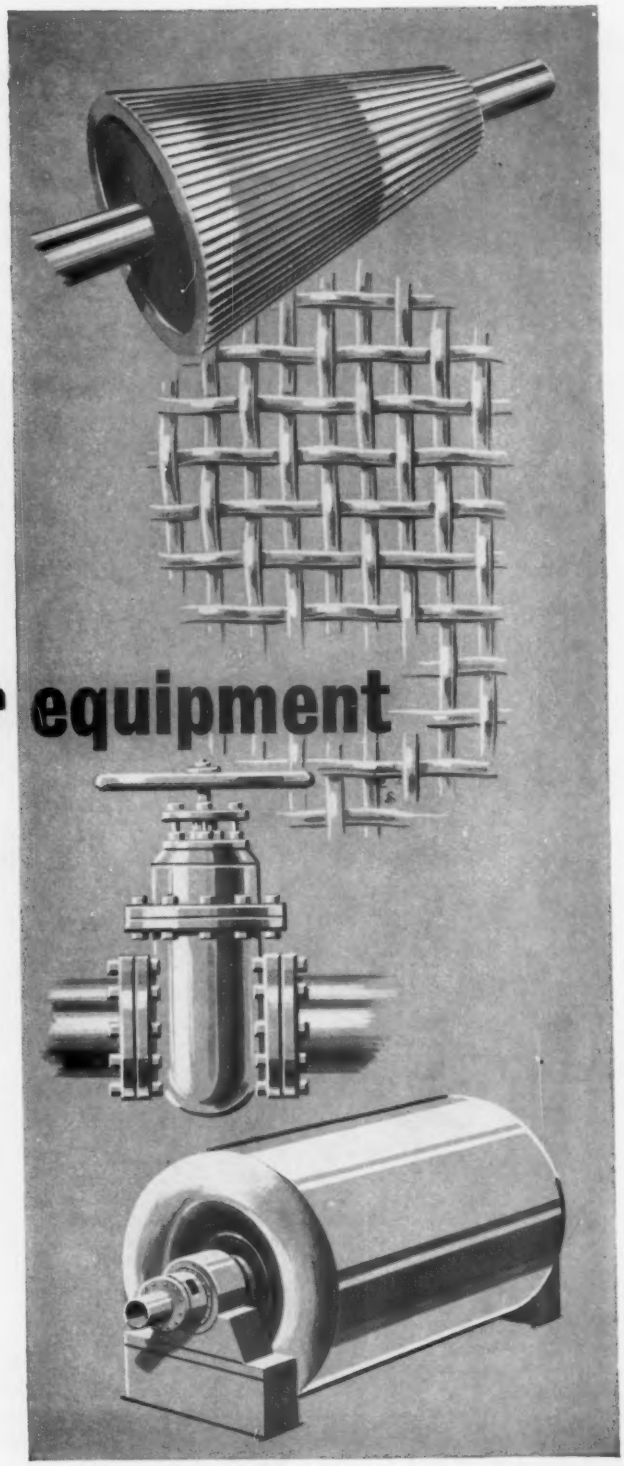
**OTHER A-C PRODUCTS:** thermal, hydro and atomic electrical generating equipment; switchgear, transformers, unit substations; tractors, earth-moving equipment, engines, lift trucks.

**ALLIS-CHALMERS**

## In Making Wet-Strength Papers–

# KYMENE® POLYAMIDE RESINS

## are kind to your equipment



Why let acid corrosion eat up your paper stock system? Kymene wet-strength resins 557 and 709 function in neutral or alkaline pH systems and do not need corrosive acid conditions to develop their wet-strength characteristics.

See what Kymene polyamide-epichlorohydrin wet-strength resins can do for you. Contact the nearest Hercules Paper Makers Chemical sales office:

Atlanta, Ga. Milwaukee, Wis.
Holyoke, Mass. New Orleans, La.
Kalamazoo, Mich. Portland, Ore.
Wilmington, Del.

*Paper Makers Chemical Department*

*HERCULES POWDER COMPANY*

INCORPORATED

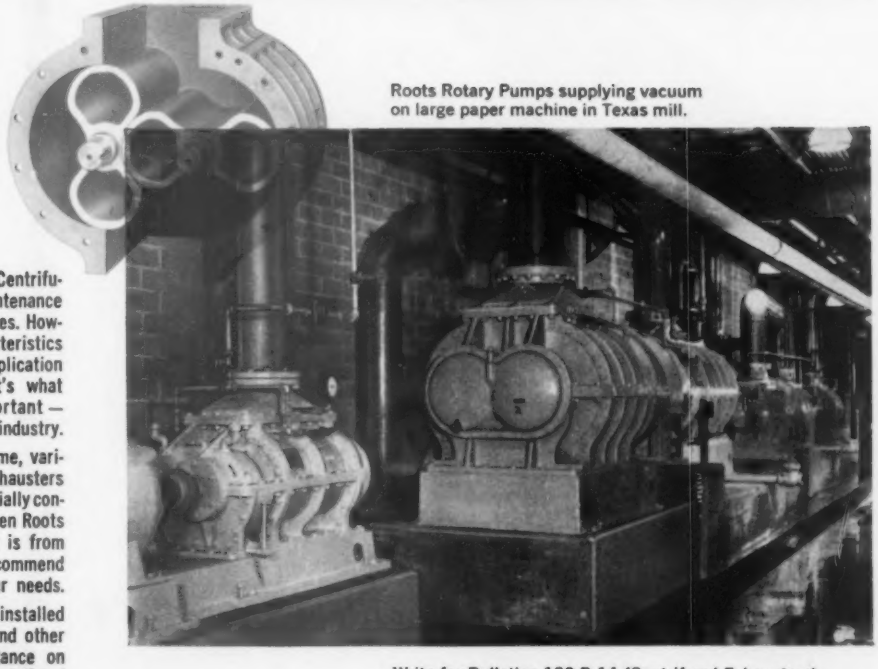
*Hercules Tower, 910 Market Street, Wilmington 99, Delaware*

PP61-3

# WHY YOU SHOULD SEE ROOTS FIRST FOR ALL VACUUM REQUIREMENTS

## ROOTS' "Dual-Ability" Offers Centrifugal and Rotary Positive Equipment

Roots Multistage Centrifugal Exhauster connected to 550 hp steam turbine in New York paper mill.



Roots Rotary Pumps supplying vacuum on large paper machine in Texas mill.

Roots Rotary Vacuum Pumps and Roots Centrifugal Exhausters are virtually free of maintenance because both are simple, rotative machines. However, each has distinct operating characteristics and each has an important, preferred application in certain paper mill operations. That's what makes Roots' "Dual-Ability" so important — because Roots offers **both** types to the industry.

Rotary vacuum pumps are constant volume, variable pressure machines; centrifugal exhausters (available with multiple nozzles) are essentially constant pressure, variable volume units. When Roots appraises your vacuum requirements, it is from the unbiased position of being able to recommend and supply the type best suited to your needs.

Hundreds of Roots Rotary Vacuum Pumps installed throughout the United States, Canada and other countries testify to their wide acceptance on paper machine requirements. In the centrifugal field, a Roots Multistage unit has been in service for 13 years supplying vacuum requirements for paper machines in a New York mill. Roots Single-stage Centrifugals are being utilized for specific vacuum applications on several U.S. and Canadian paper machines.

The next time you consider vacuum equipment, talk first to ROOTS — first in the field of air and gas handling.

Write for Bulletins 120-B-14 (Centrifugal Exhausters) and VP-158 (Rotary Positive Vacuum Pumps).

**ROOTS**
**CONNERSVILLE**
Rotary Positive Blowers & Meters • Gas Pumps • Vacuum Blowers • Spiralaid® Compressors • Centrifugal Blowers

**DRESSER INDUSTRIES INC.**
OIL • GAS • CHEMICAL
ELECTRONIC • INDUSTRIAL

**ROOTS-CONNERSVILLE BLOWER DIVISION** • 1260 Willow Ave., CONNERSVILLE, IND.
In Canada — Roots-Connersville Blower (Canada), Ltd. • 629 Adelaide Street, West, Toronto

# Market Pulp is our

Buckeye's constant goal is to develop trees with greater yield and superior pulping characteristics.

# business

ALL OF BUCKEYE'S energies, talent and resources are directed toward producing finest quality pulps. Skilled, experienced hands are busy from the very beginning . . . cultivating vigorous, strong-fibered pine seedlings on our 800,000-acre tree farm at Foley, Florida . . . selecting the best pulpwood for processing . . . establishing and adhering to the most exacting quality standards and controls. From start to finish, Buckeye employs scientifically-proven methods and equipment, including a unique double-screening system and special 8-stage bleaching process to assure new levels of cleanliness and brightness. As a result, Buckeye krafts have attained a world-wide reputation for dependability among leading papermakers. And the Buckeye name has become a symbol for service and quality.

We'd like to tell you more about our bleached krafts. Why not write us and ask for the new brochure on Buckeye pulps for the paper industry?

*BUCKEYE CELLULOSE CORPORATION*
*Memphis, Tenn./Foley, Florida*

# BUCKEYE KRAFT

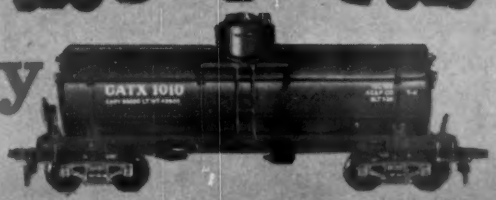
*Also cotton linter pulp*
*Chemically modified cotton linter pulp*

# However you want your clays...

bag

bulk

slurry




## ...the Huber way is fastest

Approximately 10,000 carloads of clay per year are expedited by Huber's Traffic Department to all points of the compass. Our records and our customers' prove that barring nature's vagaries, *these shipments get to their destinations in record time* via the least expensive routing. You will find our Traffic Department's knowledge of shipping routes, rates, schedules and availability of box, tank and hopper cars to be without parallel in the industry.

All cars for Huber shipments are carefully inspected and cleaned, and all boxcars are paper lined prior to loading. Square, solid unit and palletized loads are rapidly handled and easily stored. Huber shipments arrive in top condition.

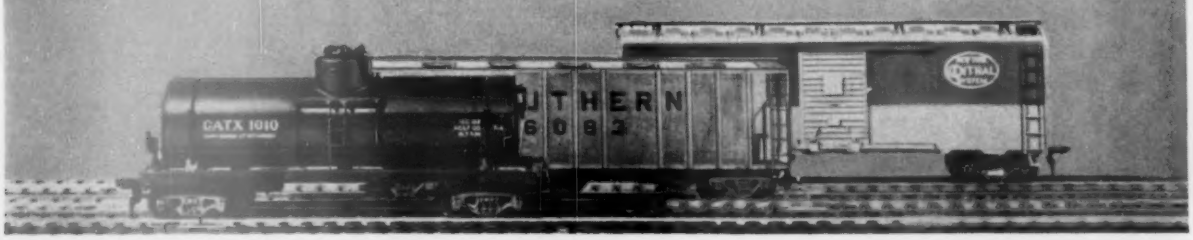
*Ask for working samples of any of the clays in the complete Huber line.*

HUBER

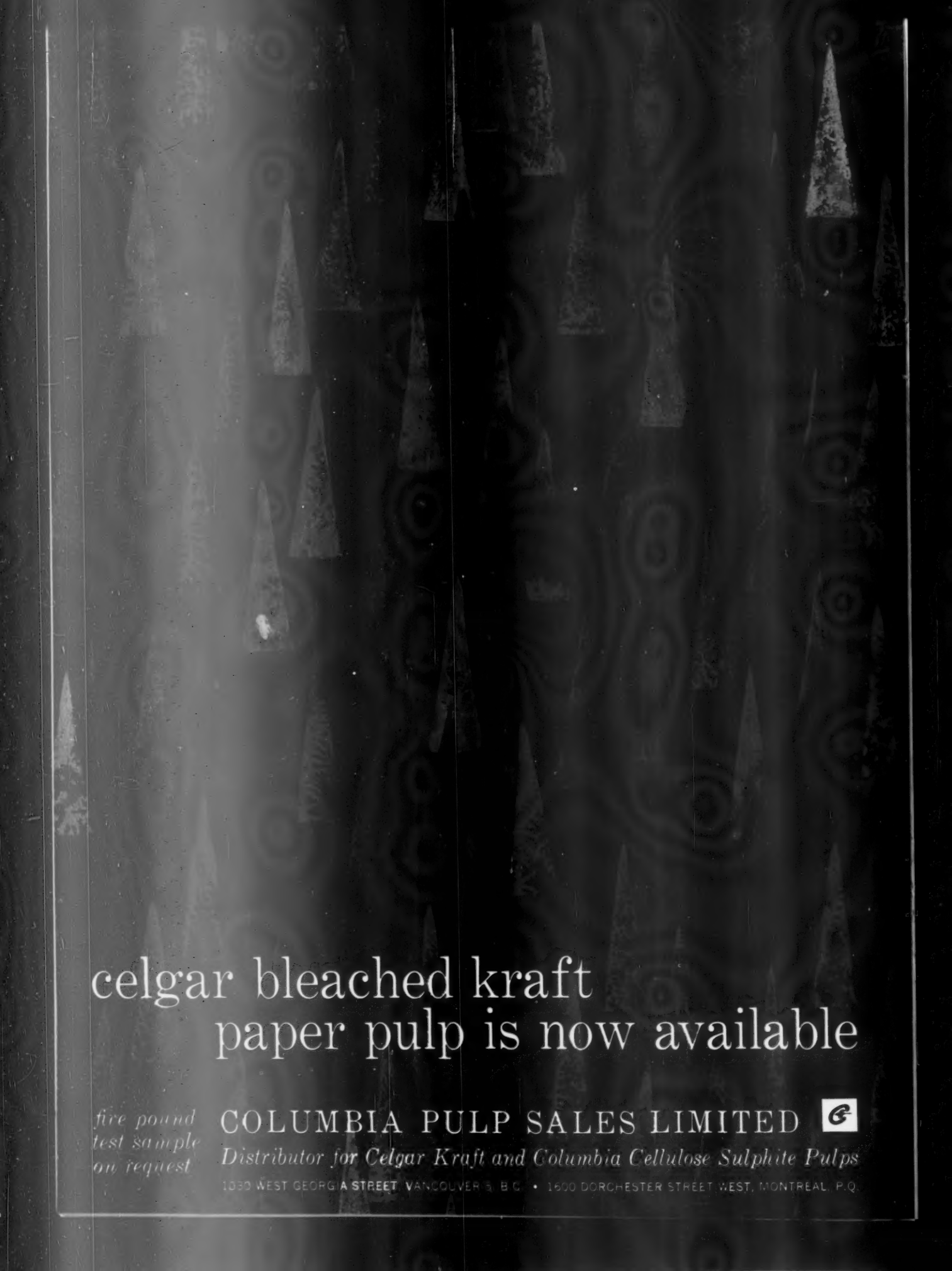
## J.M. HUBER CORPORATION

630 Third Avenue, New York 17, N.Y.

Mines & Plants: Huber, Ga.; Graniteville & Langley, S.C.



celgar bleached kraft
paper pulp is now available
five pound
test sample
on request
COLUMBIA PULP SALES LIMITED
Distributor for Celgar Kraft and Columbia Cellulose Sulphite Pulps
1030 WEST GEORGIA STREET, VANCOUVER 5, B.C. • 1660 DORCHESTER STREET WEST, MONTREAL, P.Q.


celgar bleached kraft
paper pulp is now available
five pound
test sample
on request
COLUMBIA PULP SALES LIMITED
Distributor for Celgar Kraft and Columbia Cellulose Sulphite Pulps
1030 WEST GEORGIA STREET, VANCOUVER 5, B.C. • 1600 DORCHESTER STREET WEST, MONTREAL, P.Q.

**FINISHED PRODUCT PROCESSING EQUIPMENT** Winders • Reclaim Winders • Cutters • Slitters • Supercalenders • Roll Wrappers • Roll Lowering Tables • Roll and Shaft Handling Equipment • Conveyors • Unwind Stands and Tru-Tension Controls • and other equipment for the paper and allied industries.

# before you decide on a new **supercalender**

# meet some "Beloit Eastern" people

**JOCZ** applies know-how of nearly 25 years' experience with tool design and exacting problems of paper mills.

**PRAGER** sparks new ideas based on his 35-year background in finishing and converting end of paper industry.

**IMPROVEMENTS IN NEW MODEL SUPERCALENDER** are reviewed by Dan G. Jocz, manager of manufacturing (*left, below*), and George Prager, design engineer. Blueprint shows equipment specially designed for physical setup of customer's mill. Machinability and strength factors are highlighted. Planer mill in background is part of Beloit Eastern's battery of diversified machine tools at Downingtown, Pennsylvania.

**RESULT:** mill will get peak of supercalender design . . . new production standards.

PHOTOS: E. K. CHRISTENSEN

BELOIT EASTERN PAPER MACHINERY DOWNINGTOWN, PENN.

Member Beloit Group

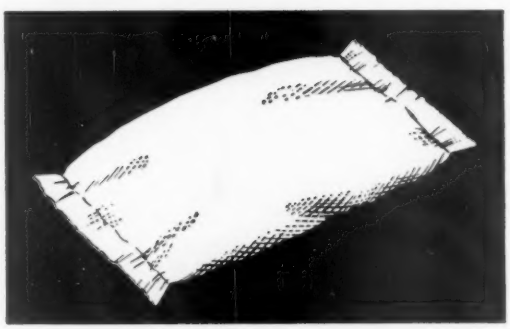
**BELOIT EASTERN CORPORATION**

Downingtown, Pennsylvania

# VANZYME®

## SOL-PAKS

*Starch Liquefying Enzyme*
*in water soluble packets*



Accurately pre-weighed quantities
of standardized Vanzyme powder
to convert starches
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**COMPANY, Inc.**
230 PARK AVENUE · NEW YORK 17, N. Y.

PULP & PAPER

# "Send Me A Man Who Reads . . ."

Says International Paper's

LAMAR M. FEARING
Executive Vice President

## IP's research proves a point:

*"Men who read more . . .*
*achieve more"*

THE NOTION that the paper industry ought to be taking action in support of the printed word and in support of the general idea that people should read more, has been one I have toyed with for years. I remember an ad some time ago that impressed me strongly. The ad showed Abe Lincoln stepping down from the dedication platform at Gettysburg with a piece of paper in his hand. The text pointed out how fortunate we are that his words at Gettysburg had been preserved—in print, on paper.

A year or so later I told some friends in the paper industry that we all ought to get together and sell the printed word as the best advertising medium, the best entertainment medium and the best information medium available anywhere. We don't need to knock the other fellow—all we need is to point out how good *we* are. Beautifully printed, well conceived advertisements are always very impressive and they are *there*—to be referred to again and again.

About the same time, several of us at IP were wrestling with the problem of how our company could present itself to the public as an institution. We wanted to develop some kind of corporate image in people's minds that would be in keeping with the things our company stands for.

It was our chairman, John Hinman, who finally came up with the suggestion that our interest in the printed

*"The young interne leans heavily on medical texts and journals . . . the established physician more on general reading, papers"*

*"The ability to read and to write does not come naturally ... it is a stimulant to the art of critical thinking"*

word might be developed into the kind of concept that could create a public image for International Paper Co.

Once the basic decision had been made to develop this new field of corporate advertising in support of the printed word, we defined our objectives:

1. To increase public recognition of International Paper Co. and to help establish the importance of our company's contribution to American life through its role as a leading papermaker.

2. To foster a more widespread awareness of the importance of printed communication on paper.

These objectives correlated very neatly with some of our major corporate objectives. A company as big as ours simply must be known, and favorably known, by the public. Even though we have no products to sell directly to consumers, public opinions about us and public attitudes toward our company do affect the climate within which we carry on the many complex phases of our corporate operations.

Even more directly, of the 4,700,000 tons of paper, paperboard and market pulp we sold last year, I would guess that at least three-quarters of that tonnage in one way or another ultimately became a medium for the printed word. We actually produce a little over 1½ million tons of newsprint, magazine, and other printing grades of paper annually.

## Industry has great stake in the printed word

That is quite a stake in the *printed word*—it is easy to see that anything that affects this broad field affects International Paper Co.

At this point we'd agreed on what we wanted to talk about. We knew we wanted to talk about people and the rewards of the printed word. And we wanted to talk to the public. We wanted *people* to listen to what *we* had to say. That meant we had to talk in terms of their own self-interest. There is no better way to appeal to the self-interest of a great many people than to talk about success or achievement.

We decided at this stage that International Paper would sponsor research to determine if it could be established that "men who read more, achieve more." We wanted to see if we could establish some measurement of the importance of reading.

We set some arbitrary standards of achievement. One was financial. For businessmen, we assumed that men over 40 who had become company officers and whose incomes had exceeded $15,000 annually could be held to have been successful. As a control, we studied a similar group of businessmen who had not achieved the same degree of success.

The successful businessmen we surveyed had read 15 different issues of newspapers during the preceding seven days against only 12 for the lower group—3.8 magazines against 2.9—almost twice as many had read at least one book in whole or in part within the past seven days.

Our samples were relatively small—100 men in each group—but the research organization took care to be sure that the surveys were sound as representative samplings. It seems to me that the implications here are significant. Men who have achieved a degree of success in business read more than those who have not. Reading is a part of their lives—they depend on reading both for information and for entertainment.

## The successful man goes right on reading

Our report on the reading habits of farmers, doctors and lawyers took a different tack. We discovered that young men in these fields read heavily, but the men who achieve recognition and success go right on reading.

Among farmers, for example, we found that young farmers (this was our criterion for farmers) reported reading more farm magazines than the older, more successful farmers we interviewed. But the older farmers read more newspapers and books. Our conclusion here was that successful farmers keep on reading.

For doctors, we divided our group between internes and members of the American College of Physicians. The internes read pretty heavily in medical texts and journals,

*"A survey . . . of successful men showed they read a third more magazines and twice the books as the next highest bracket"*

as you might expect, but the older doctors, whose success is established, spend more time on general reading and almost as much time reading medical journals and magazines. It appears that great doctors, too, keep on reading.

### As success continues, reading is broadened

With the state of things as they are today, many of us would expect that all lawyers are successful. We were not surprised to find that senior partners in corporate law firms read heavily in newspapers, books and magaines and in professional literature. But the young lawyers are heavy readers, too. They read even more in newspapers and books, but don't do quite as much reading as their seniors in law texts and law journals. It looks as though anyone who aspires to be a successful lawyer is going to have to keep right on reading, too.

The next phase of our study for our 1961 campaign was even more interesting to me. We wanted to make our message even more personal. And we are doing this by putting greater emphasis on personal achievement—aimed at the reader, regardless of his line of business. Moreover, the rewards of reading will not be confined to showing the correlation with higher income and higher professional status. We will show and dramatize how much reading correlates with the overall qualities of leadership.

The first step was to extend our research . . . this time among high school students, architects, congressmen, aeronautical engineers and vice presidents of corporations—certainly a diverse group. I have as yet seen only the results of the survey of high school students.

The student group was divided into 1960 high school graduates who have received national academic scholarships and those who just received diplomas. The results are striking. The scholarship winners read significantly more newspapers, magazines and books. When the survey was taken last June, they were reading more books as part of their college requirements—and just simply for pleasure or information. They spend much less time watching television and attending the movies. And perhaps most significant, these youngsters who have set outstanding scholastic records and who spend so much time reading are the leaders. They report far more activity in high school service, social or athletic organizations. And many, many more of the scholarship winners have been officers or captains of these organizations.

Once again it is as clear as print—students who read more, achieve more.

The second major addition we are making for 1961 has to do with a special "reading aids" message that will be included in each advertisement. For example, the first one suggests that you check up on your reading speed. And it tells you how.

Another invites you to try the benefits of library membership. Still another suggests that if the best sellers bore you, the right thing to do is find ways of looking further afield. For instance, make a list of reading you have enjoyed and show it to your librarian. She will help you to choose better. These suggestions, we feel, will add to the attention-getting quality of the message and stimulates reading action.

*"Men who read must be brought into proper focus in today's very complex world..."*

I am sure that the conclusion we draw from our research —"Men who read more, achieve more"—comes as no surprise to any of you. We had pretty much expected these results when we began our survey, although I must say we were gratified at the good correlation we found. But what of it—who cares?

The answer is that people do care. The brilliant series of advertisements developed by our agency brought an unprecedented response. We have received letters and cards from college presidents, teachers, librarians, printers, publishers, editors. In January, the New York Employing Printer's Assn. selected reprints of the 1960 series to display in their Exhibition of Printing during Printing Week.

You would expect all of these people to be interested.

But we have also received hundreds of responses and requests for reprints from business executives, board chairmen and presidents, from sales managers who wanted to circulate their organizations, from legislators, from engineers, from executives in advertising agencies, from worried parents and even from youngsters. Here are excerpts from a few.

## How the series commanded wide-spread attention

The director of purchases for a large national company wrote:

"This is to tell you how delighted I am to see your series of advertisements on the importance of reading. I am sure this can do much to improve your corporate image in the minds of the thoughtful people who buy from your company.

"My own teen-age children were so impressed with the series that I had to arbitrate last night to see which of them would take the brochure to his high school English class.

"As a purchasing man who is confronted with hundreds of attempts to seize my attention every day, I can assure you that a series like this should be extremely effective in calling attention to the fine name of your company."

A leading consumer magazine publisher wrote in part:

"This is the finest campaign for reading that I have seen in my years as a publisher. It is a timely and much needed promotion for the importance and value to our American people of the freest and greatest press the world has ever known."

A college president wrote:

"Thank you for sending me the preview of your corporate advertising program. I am so impressed with this that I decided to write you this note of congratulations and our enthusiastic endorsement. Certainly the man who reads must be brought into proper focus in today's complex world. You are doing something significant in calling this to the attention of the public through your particular medium."

The purchasing agent of a large electrical manufacturer obtained a quantity of reprints of one of our ads and personally sent them out with a grand covering letter to every school and library in his area.

Our prize letter was from a little girl in Oregon. She wanted 12 billion reprints of our first ad!

We have had letters from every state and from all over the world. Frankly, we have been flooded. To meet requests we have had to reprint nearly three-quarters of a million copies. Remember, there were no premiums—it was just interest.

People do care, they are listening, they do appreciate the value of the printed word, the value of developing good reading habits. They are worried that their youngsters are not spending the time that should be spent in reading.

The ability to read and write does not come naturally. Any parent realizes that reading is at the heart of formal education. Much of what we learn must of necessity come from the printed page. Reading helps our children learn about the world beyond the classroom wall. It is a stimulant to critical thinking, to the appreciation of beauty and to the search for the hidden truths, whose discovery provides the basic advances of our civilization. Reading can become a worthy substitute for remote experiences far beyond the reach of most youngsters today.

Modern education is developing rich resources in communities all over our country. More libraries bring the great works of the past to students. Better textbooks and better techniques of teaching, particularly of teaching reading, are available.

In my judgment, and the evidence is strong that a great many people instinctively agree, no matter how many new educational techniques are developed, skill in reading is still the basic tool in the creation of an educated man or woman.

This was, unhappily, forgotten when some years ago we turned to so-called "progressive education." The result was that many students did not learn how to read. The need for remedial reading courses resulted. If you can't read well, your chances of accomplishing something in any field are limited. If you can't read well, you can't even study well.

Just look around at the thousands who can't understand the contents of a trade journal—they are stuck with mediocre jobs.

There is an important conclusion to be drawn, I believe, from our experience: that the American public has deep and abiding faith in the power of the printed word—in the value of reading. For information, for education and for entertainment, there is nothing like the printed word.

I want to see the printing and publishing industries and the paper industry join hands in a major effort to bring this story home to the American public. We have a great story, we have a sympathetic, attentive, responsive audience. We have demonstrable results.

Let us sell the power of the printed word and the importance of reading. We will be doing the people of America a service and we cannot lose—neither the biggest nor the smallest of us. ■

*This article is based on a recent address by Mr. Fearing before the annual winter conference of the Associated Business Publications held in New York. Photographs by Arnold Newman are the courtesy of International Paper Co.*

*"Young farmers read the usual journals... but the older farmer reads more books, newspapers."*

Karl W. Heinlein, resident manager of Columbia River Paper Company's Oregon pulp and paper division, tells the story behind:

# "Why We Think Professional Guards Cut Security Costs"

A WELL CONCEIVED plant security program, initiated and carried out by professionals in the field, can spell the difference between profit and loss in many paper mills.

Perhaps because they have lived with the conditions so long, many mill operators have made no serious assessment of the security required—by this we mean security for workers, for raw materials, for product, all the way from the pulpwood area to the shipping platform.

An evaluation will show a relationship between fire, accident and other losses and the constantly rising costs of insurance, downtime and other financial drains the company must meet. It is simply good business to take a fresh look at the brand of plant security applied in the papermaking field.

**Such an evaluation was made** two years ago here at our Salem, Ore. plant. An honest appraisal of our safety and security measures revealed much to be desired. We had been getting by with company guards on our premises, principally utilizing older workers who were semi-retired. Results were not good.

Fire hazards frequently went unattended because our guards were either unobservant or disinterested. Discipline was poor because the guards, former mill workers, knew everyone in the plant and were loath to enforce plant rules or report infractions.

**Tighter security at lower cost** was the result of our study. A professional security agency, in this case Pinkerton's National Detective Agency, was called in to make a survey of our security needs. In the two years since then we have had Pinkerton guards on our property and we find we are getting much tighter security at less cost than with our own watchmen. We have not regretted turning our security over to pros.

The security installation at our Salem mill is a small one—normally 168 guard-hours a week, or one guard per shift around the clock for seven days. At night and on weekends, the guard has 38 clock stations to register on his rounds—24 in the paper mill. He makes roving tours, varying the the direction, to achieve better security. Additional guards are used when the plant is shut down and occasionally on Sundays.

**It is not quantity protection** that out-contracting has brought to our security operation. The difference is quality. The guards hired from outside are uniformed but not armed, are well trained in security procedures, have taken standard 30-hour Red Cross first aid course.

Those in supervisory jobs also pass an advanced 36-hour course, making them capable of teaching. This same man attends all plant safety and fire meetings, contributing his own suggestions for improvement. He observes and reports any conditions needing attention.

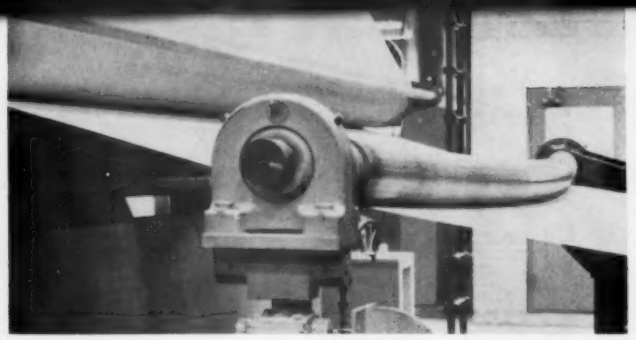
**Guards know our personnel** and are quick to recognize an employe in an area where he doesn't belong. Wandering personnel, even when they have no ill purpose in mind, are a risk to themselves around a paper mill. This factor of plant discipline—and it can be carried out in the friendliest sort of manner—results in added personal safety for all concerned, and fewer headaches for management.

Use of trained guards from the outside has lessened our security worries. With all his multiple duties of checking visitors, enforcing rules (such as the easily broken no-smoking rule), making clock rounds, handling parking lots and bringing trained habits of observation to the constantly changing conditions around a busy paper mill, he is a good investment. ■

**PROFESSIONAL SECURITY at Columbia River results in lower overall costs, is more efficient and lowers mill accidents.**

## SPECIAL . . . HOW TO DO IT

New uses are being developed every day for expander rolls . . . this latest report tells



TISSUE WEB on this high speed machine is spread and stretched by Mt. Hope expander roll. The roll also is used to eliminate wrinkles in the sheet.

# How To Get Better Operating

THE VAST POTENTIAL for the Mt. Hope expander roll has hardly been tapped. New and exciting uses for it are being discovered every day. Its use as one of the really new developments in the art of papermaking is proven in the fact that a great many of the new applications developed for these rolls have come from paper superintendents, papermakers and plant engineers who recognize its possibilities and experiment beyond the normal uses for which it was originally purchased.

In addition Mt. Hope continues to spend endless hours making laboratory tests to ascertain exactly what happens to a sheet or felt as it passes over a Mt. Hope roll. This article is designed to explain how the roll is made, what it does, how it does it, the most efficient way in which it should be used. This should enable those now using these rolls to apply them to even greater advantage and to correct possible mistakes being made at present.

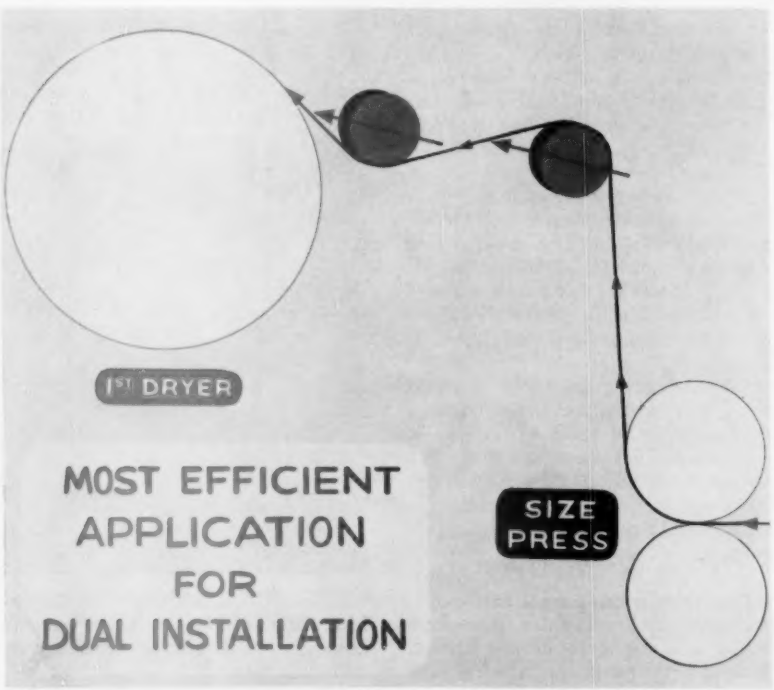
There are two basic types of rolls, the Fixed-Bow roll and the Vari-Bow roll, both of which are similar in construction and application. The Vari-Bow, however, has specialized uses.

**In basic principle, the rolls** are used to stretch the sheet as it passes through the dryer rolls and to remove wrinkles by using this stretch principle. The rolls are used between lead-in and lead-out rolls. As the bow is increased in the roll, the paper stretches out to its limits. Ordinarily this stretch would then contract as the sheet leaves the expander roll and goes back through the lead-out roll. However, by varying the lead-in and lead-out distances, this stretch can be locked into the sheet. This is accomplished by placing the lead-off roll closer to the expander, thus entrapping the stretch and maintaining wrinkle-free operation at the same time. Since the stretch is carried out over a large surface of the roll, tearing or slitting of the sheet is prevented.

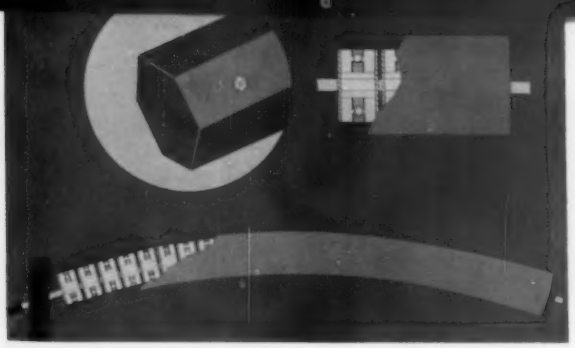
**Advantages of the Vari-Bow** roll are even greater since it can be changed from a straight roll to a Mt. Hope roll while a process is going full speed. This permits an extra variable which is particularly important where the conditions or make-up of the sheet are changing within itself or where different types of material are running over the same rolls.

In papermaking, very often conditions such as humidity in the atmosphere can cause a serious wrinkle problem in a delicate sheet. In certain applications such as attempting to spread or stretch a wet sheet or to retard shrinkage as the sheet passes over the dryers, a Vari-Bow is mandatory to provide full control.

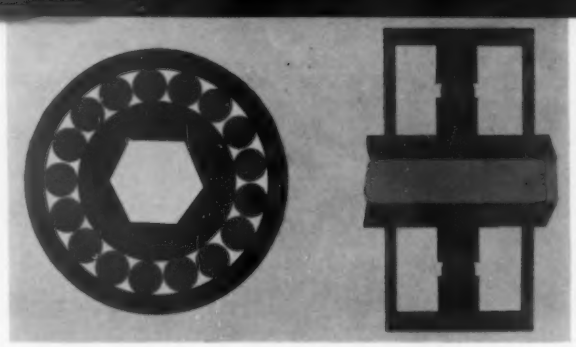
**One of most popular applications** of these rolls is its use on paper ma-




ROLL LOCATION for most efficient application of the expander rolls is shown in this diagram. Arrows indicate axis.



BASIC COMPONENT of fixed bow roll is hex-shaped bar which is bent to predetermined bow. Bearings are mounted on shaft; rubber sleeve covers assembly.



INNER RACE of bearings is fixed to axle, outer race rotates with rubber sleeve. Ball and socket brackets permit bow rotation; sleeve contracts, expands as roll rotates.

# Results From Mt. Hope Rolls

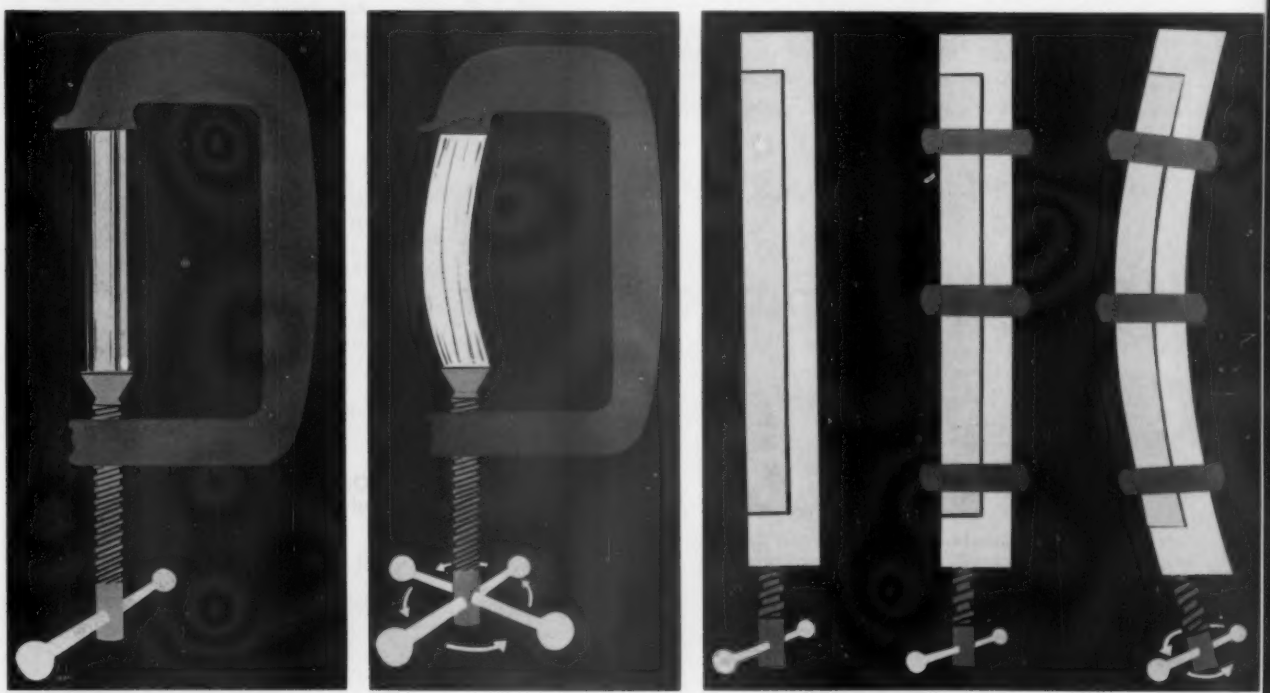
chine felts. The roll can be used to straighten the guide line when the felt develops a leading bow such as is caused by the pressure of the crown rolls throughout the felt run. By rotating the bow into a felt, as is shown in the accompanying illustrations, the leading bow is straightened, returning the mesh of the felt to its normal spacing and keeping it open for better running and drainage.

**In normal positions roll is used** to increase the running width of the felt. This may be a desirable characteristic after a felt has been running a number of days and has narrowed down.

Perhaps the most beneficial use of the Mt. Hope rolls on the paper machine felts is the one first mentioned: to keep the seams straight. This has an important bearing on felt life for felt that is running crooked or bowed will tend to fill up faster. The weave is distorted and, therefore, the threads are closer together than originally designed, and the drainage of the felt is impaired. Straightening the seam will result in a more uniform drainage across the width of the felt, and therefore will eliminate the possibility of wet streaks. Guide line and felt should run at manufactured length.

## Theory behind the Vari-Bow expander roll . . .

Is shown in these diagrams. At left is normal steel bar in C-Clamp. Next, bar is curved by tightening the clamp. Same theory is used in Vari-Bow, except the clamp AND bar must be bent. Final diagram shows how this is accomplished. Required bearings are placed on the roll and bar; when pressure is applied one side of axle is elongated, the other side compressed thereby causing the bowing or bending action shown at extreme right.

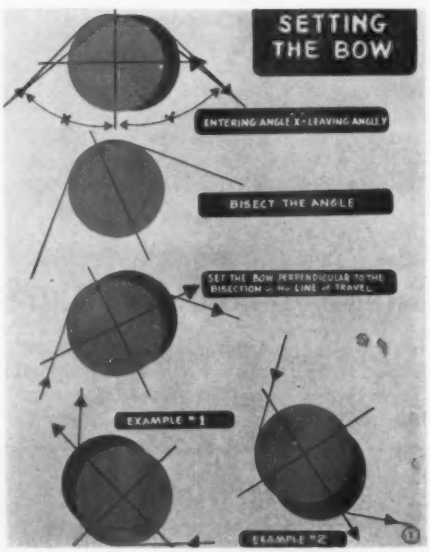


## How guide roll principle works

Basically, expander rolls perform a similar function as actually pulling a sheet with the hands. It is stretched (1) and wrinkles are removed. To do this, the sheet is expanded in an arc outwards. The expansion of sheet occurs all the way back to the preceding lead-on roll. Since contraction takes place after the sheet leaves the Mt. Hope roll, the lead-off or follow roll is placed closer to the expander roll than the lead-on roll. Drawings show how sheet is stretched (2) and how longitudinal fibers are also stretched (3) to achieve this effect. Since roll is bowed (4), the inner surface is contracted, the outer surface expanded. Since the sheet enters the narrowest part of the sleeve and leaves at the widest part, sheet is pulled out to maximum width. Conventional spread roll exerts pressure at two points (5), causing possible split, while Mt. Hope roll exerts infinite number of minute spreads, does not split.

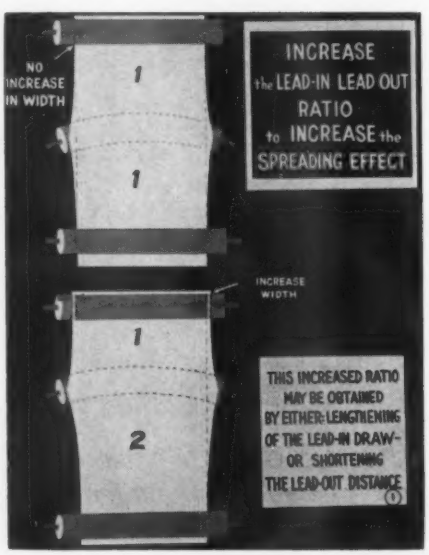
## How to set rolls for best run

First drawing shows how spreading effect can be increased by either lengthening lead-in draw or shortening lead-out distance. Ideal lead-in, lead-out ratio is two-to-one. If lead-in, lead-out distance is same, no stretch occurs. Only limitation: Lead-in distance cannot exceed the radius of the bow. Drawing (2) shows normal mounting position. Wrap is combination of angles x and y. Angle z is normally 90 deg. Material closest to edges is line E, center is C and would contact and leave roll after E. Because of roll curve, however, neither travels any farther so no distortion occurs. When bow is rotated into the material, (3) this tightens center of sheet, eliminates baggy center because center of material travels farther than edges. To tighten edge of sheet (4), bow is rotated away from sheet, edges therefore travel farther and are automatically tightened. This procedure makes a uniform roll when floppy edge occurs.


SETTING THE BOW
ENTERING ANGLE X = LEAVING ANGLE Y
BISECT THE ANGLE
SET THE BOW PERPENDICULAR TO THE BISECTION OF THE LINE OF TRAVEL
EXAMPLE "1"
EXAMPLE "2"
①

## How to achieve proper bow set

Serious problems sometimes occur in setting the bow. Top of drawing (1) shows that entering and leaving angles should be the same. These angles are bisected and the bow should then be set perpendicular to this bisection. At bottom are examples of proper bow setting. Varying bow of roll (2) increases spreading effect. With bow into web, less spreading occurs. Basically a few rules can be established to assist in proper setting. To increase spreading effect, increase bow (3); to decrease spread, decrease bow . . . to increase spread, increase wrap (4); to decrease, decrease wrap . . . to increase spread, increase the lead-in, lead-out ratio, to decrease, decrease the lead-in, lead-out ratio. These rules are also intra-applicable. For instance, if bow is increased and wrap decreased, the same result may be obtained. This sort of manipulation is often necessary.


NO INCREASE IN WIDTH
1
1
INCREASE WIDTH
1
2
INCREASE the LEAD-IN LEAD OUT RATIO to INCREASE the SPREADING EFFECT
THIS INCREASED RATIO MAY BE OBTAINED BY EITHER: LENGTHENING OF THE LEAD-IN DRAW- OR SHORTENING THE LEAD-OUT DISTANCE
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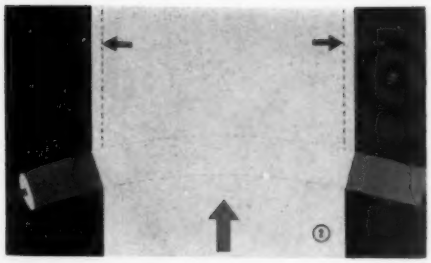
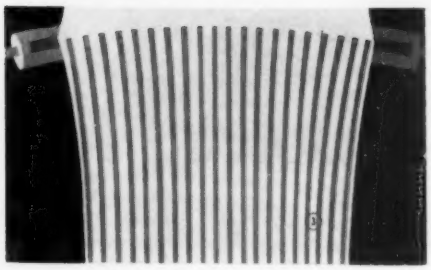
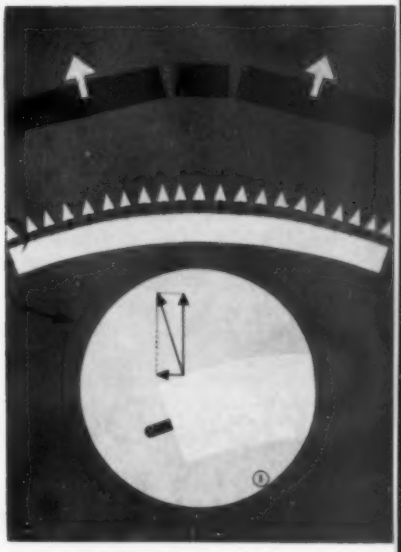
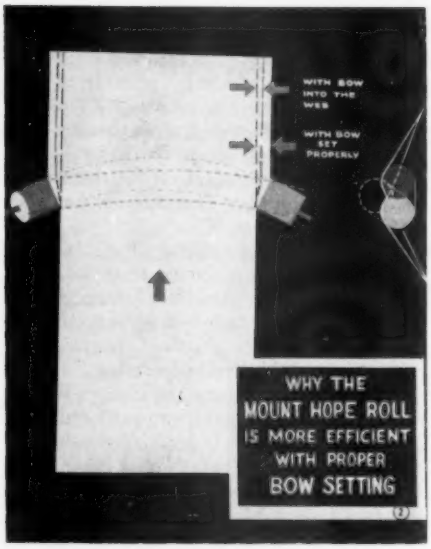
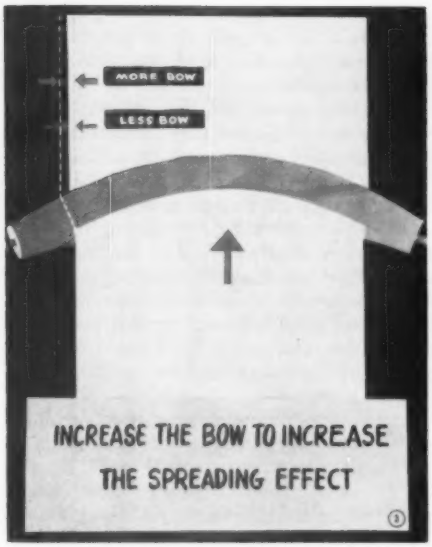
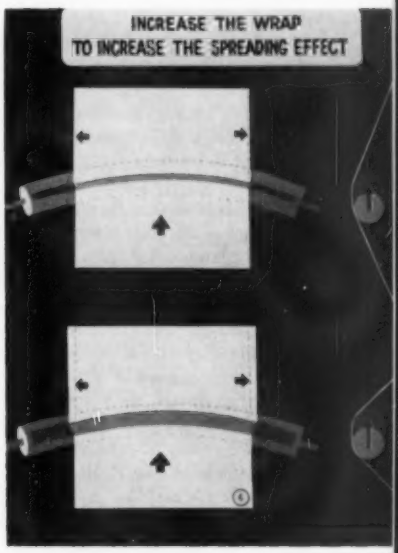




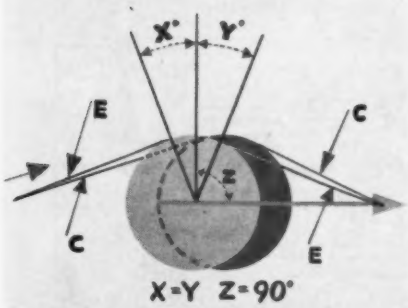




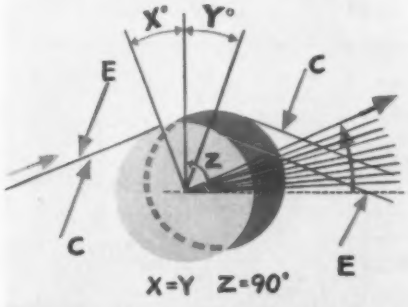




NORMAL MOUNTING POSITION



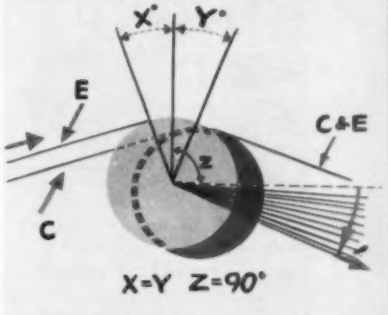

CENTER AND EDGES OF WEB TRAVEL EQUAL PATHS. ROLL EXPANDS WITHOUT CORRECTION FOR EDGES OR CENTER.

TO TIGHTEN CENTER




TURN APEX INTO CENTER TO MAKE CENTER TRAVEL A GREATER DISTANCE THAN EDGES.

TO TIGHTEN EDGES




TURN APEX AWAY FROM WEB TO MAKE EDGE TRAVEL A GREATER DISTANCE THAN CENTER.

By-products race continues at an accelerated pace as more mills add lucrative plants to absorb their "left-overs." Rust Engineering's E. P. Tully, assistant to V.P. engineering, gives details on . . .

# How Design Problems Were Solved In New Lignin By-Products Plant

Johnsonburg, Pa. ADDITIONAL BY-PRODUCTS are being squeezed out of spent sulfite liquors from the 100 tpd sulfite pulp mill of New York and Pennsylvania Co., Inc. Here at Johnsonburg, a new plant of Lignin Products Co., Inc., which converts waste sulfite liquor into salable products, has gone into operation.

The plant, a subsidiary of Robeson Process, Inc. at Erie, Pa., was engineered and constructed by The Rust Engineering Co., from process designs prepared jointly by Robeson and Rust.

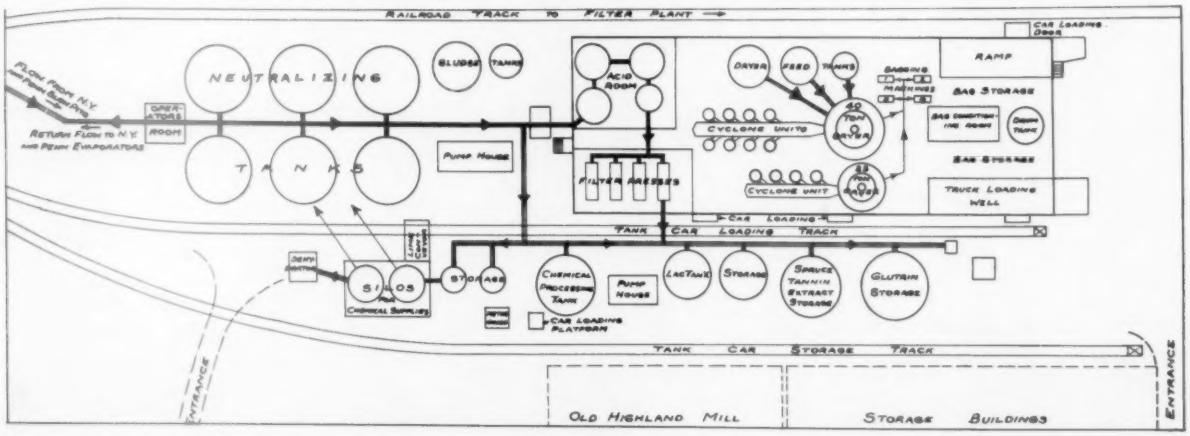
In the initial step spent liquor is neutralized with lime slurry, settled, and the clear decanted layer concentrated in a quintuple effect evaporator to a viscous liquid called Glutrin. Other chemical treatments produce different formulations and part of the concentrated finished liquors are dried to solids in spray dryers. Both liquids and solids find applications in several commercial processes, for linoleum cements, as additives in cement, ceramic and refractory industries and as chemical agents in tanning.

**A difficult design problem** was to pump spent liquor from the blowpits about 800 ft. to the Lignin Products plant for neutralization, repump to the existing evaporator area at New York and Penn for concentration and again transfer to Lignin Products for further treatment and shipment.

Apart from the long, outdoor piping runs over existing structures, the process design was complicated by corrosive action of the raw spent liquor and the high viscosity of concentrated liquor. In one instance, a 7½ hp concentrated liquor pump was inadequate at low temperature and was replaced by a 25 hp pump to offset the effect of viscosity which varies from a normal 200 centipoises at 115°F. to 1000 at 50°F. Plant capacity averages 160 gpm of spent liquor, corresponding to a daily output of 37,000 gals. of finished liquor or 100 tons of dry products.

Liquid raw materials shipped by tank car are unloaded by usual air padding methods. Hypalon hoses are used instead of rigid piping to eliminate exact spotting of tank cars. Likewise, corrosive acid dilution and cooling are contained in a standard graphite shell and tube exchanger and the diluted acid fed into the process through Saran-lined and Pyrex glass piping. Incoming lime is dropped from hopper cars into a pit beneath the railroad track and then lifted by a screw conveyor and bucket elevator into a

IMPROVING BYPRODUCT EFFICIENCY of New York and Penn's Johnsonburg pulp mill is new Lignin Products Co. plant which converts waste sulfite liquor into commercial products used for many different processes.



NETWORK OF WOOD WALKWAYS and stairs from operator's station simplifies access to tanks for valve switching and sampling. Except for a few carbon steel vessels, tanks were made of Douglas fir which provides not only natural corrosion resistance of wood but also low thermal conductivity needed to insulate an outdoor installation. New York and Penn pulp mill, from which lignin comes, is seen in background.

concrete stave silo. Other raw materials in the form of ground solids are transferred from box cars to a second stave silo and to process by a pneumatic conveying system. Bagged supplies are unloaded on portable belt conveyors.

**To lower initial costs**
of the pipe bridge between evaporator and main plant areas and to minimize maintenance and painting, wood construction was used and telephone type poles selected for the main supports. Poles varied in length from 25 to 55 ft. and all were pressure treated with creosite. Lumber for the bridge was treated with pentachorophenol.

The extreme winter conditions at Johnsonburg demand insulation of the pipe bridge lines, but for economy, steam tracing, with its numerous traps, strainers, bypasses, etc., was omitted. The problem of freezing when the plant is down was solved by equipping lines with remotely operated vent valves at their highest elevation. When operations are down, vent valves open and the lines drained. Because some scale accumulation in the concentrated liquor piping is unavoidable, one main line and one spare line were flanged at 20 ft. intervals and covered with removable insulation to facilitate dismantling for cleaning.

**Two liquor lines are used**
carbon steel for neutralized liquor and type 316 stainless steel for spent and acidulated liquors. Pumps for these were constructed of cast iron and Worthite, respectively. Schedule 5 stainless pipe with Van Stone joints was specified for the larger sizes and schedule 40 with screwed joints for lines 2 in. and less in diameter. It was found that threads for the stainless pipe must be cut carefully, and a good acid-resistant thread lubricant selected to prevent galling and leakage. For lower pressure applications a hardening type of cement, litharge and glycerine, proved satisfactory.

Although long suction runs were necessary, the decision to locate all tank farm pumps in two central stations lowered installation, operation and maintenance costs and made common pump discharge manifolds less complex with a negligible effect on available NPSH.

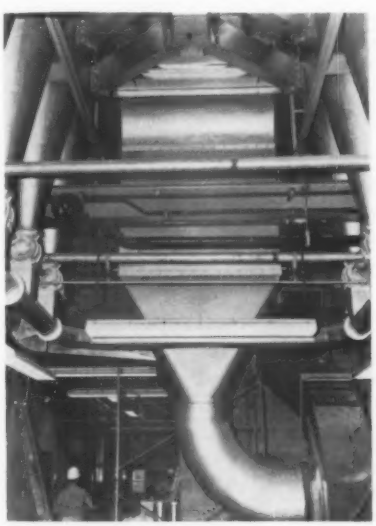
**Concentrated liquor**
is treated with acid in Douglas fir tanks and filtered in plate and frame filters in the acidulation-filtration area in the main process building. To withstand the corrosive action of the acid vapors, the entire fume exhaust system, including tank covers, ductwork and fan, was fabricated of polyester resin-fiberglass. Concrete cake basins beneath the filters were protected with a fiberglass reinforced epoxy coating.

Because of spillage of acid and acidulated liquor around the plate and frame filters and drainage from the acidulation tanks onto the floors during washouts, an epoxy coating was applied to the concrete. Epoxy coating, with its remarkable adhesive properties, was also troweled on piping and miscellaneous steel supports mounted on or through the floors to prevent acid penetration.

The entire daily output of the two dryers can be stored in a compartmentalized bin and packaged in 100 lb. bags by a one shift operation of the four Stoker baggers adjacent to the bin.

Steam is supplied from an existing header in the boiler house of the pulp mill and carried 1,000 ft. into the plant on the pipe bridge where it is reduced from 165 to 50 psig. For general wash water and a cooling water supply, one 500 gpm and one 650 gpm vertical turbine pumps were installed in the mill's pump house at the Clarion river. River water is piped 500 ft. in two underground 6 in. cast iron lines to the main building. Line surges caused by the erratic water demands of the batch system operations were eliminated by equipping each pump with an automatic bypass type surge supressor valve.

Storm and sanitary sewers run into existing mains but a process waste system was set up to receive acid drainage from the building and lime and slurries with heavy solids contents from the south tank farm. ■



TWO SPRAY DRYERS are used. One is carbon steel construction, 40 tpd capacity, other is 28 tpd stainless steel, more suitable for products of low pH. Small special batches can be handled at less cost in smaller dryer. Both were designed by Nichols Engineering and Research Corp.

## PROFILE

# Meet A. G. "Gus" Paine, new president of Nypenn

### Who believes the country is moving ahead: "We need to step out of our inertia . . ."

NEW YORK—"A recession can hardly be called a blessing. But it has stimulated us at New York and Penn to look at all of our operations . . . our equipment, our methods and our manpower . . . with a very critical eye. As a result, a lot of changes have been made, and more are planned. I think we're going to emerge from this period stronger, operating more efficiently in every respect."

Speaking was A. G. "Gus" Paine, president of New York & Pennsylvania Co., Inc. At 41, he is the fourth generation Paine to head up New York and Penn, which now produces book paper at the rate of over 275,000 tons a year, in addition to market soda pulp made at its Willsboro, N.Y. mill.

Mr. Paine feels strongly about other subjects . . . community relations, for example. During 1957 he was chairman of the community relations committee of the American Paper & Pulp Assn, and has been very active in such activities of his company.

"I like to feel we are identified with the community through our employes. We feel that we have a big responsibility here. Community relations is not ivory tower business. As a company we encourage it and spend money on it but the real work is done by our employes who serve on school boards, coach kids' teams, act as volunteer firemen and help run dozens of other community services.

"A most important adjunct to both community and employe relations is communications. We try to make sure that foremen and other management people get prompt, accurate and complete information about company plans and activities. Then, they can be intelligent spokesmen to keep other employes and the community properly informed about us. We need complete, appropriate communications all the way up and down the line."

Concerning forestry, Mr. Paine says, "Good forest management and practices are essential to the future of our industry. This includes the full and effective use and encouragement of the regrowth potential of the forests and woodlots adjacent to our mill operations. As part of our forest program, we do all we possibly can to be of assistance to local tree farmers and wood contractors. By the way, they have added substantially to the economic stability of communities in the mill areas. In large measure, it's through the good will, foresight, skill and hard work of these suppliers that we are assured continuous flow of pulpwood into our mills.

"The drive in our company today is to increase our market sales, bring a better and wider range of useful products into the market and improve quality and customer service. We're

SUPERVISION: "Here's what we've tried to do. We've placed responsibility with the head of each operating division. We're trying to delegate authority and responsibility all the way down the line so that as far as possible each man will become a manager of his own department, or crew. Each man runs his own division, which is completely under his charge."

MERCHANTS: "We believe strongly in our merchant sales. Marshal M. H. Dana, vice president—marketing, is strongly merchant sales-minded and, therefore, we are expanding particularly in this field. Merchants are our strongest sales assets and we are counting on them to help our growth in the general market on book publishing, commercial printing grades.

RESEARCH: "We are concentrating on practical research. Teamed with our technical staff all of our operating people are in research in the sense that they are constantly alert for new developments through visits to other mills, technical literature and industry publications such as yours. Research is not off in a separate building here."

NEW TEAM IN ACTION is directed by fifth generation president A. G. "Gus" Paine (right), who confers with v.p. and secretary Jack Byerton (left) and Marshall M. H. Dana (center), v.p. who directs marketing operations. Absent when picture was taken were the other top management team members Harry S. Oliver, v.p. and treasurer since 1942, and Herbert C. Church, v.p. and director of manufacturing.

building up all segments, especially merchants' sales and we'll continue to grow in this field.

"Our modernization program is on a continuous basis. Our staff of veteran engineers, technicians and operating people are pooling their know-how every day to evaluate new machinery and processes of proven worth and adapt them to our own needs. So we have "new mills" all the time. But without time-consuming, expensive, disruptive shakedown efforts intermittent, large scale construction programs entail.

"In 1948, when we decided to increase our market business, we found it a difficult task. We are known as a "captive mill" of Curtis Publishing Company. But under the direction of Marshal Dana, we have grown strong in the open market. We've stepped up our advertising and promotion efforts, almost all of which are aimed at our merchants and their customers. As a result we now have excellent acceptance from distributors. Our efforts to increase sales will continue to be in this area.

"For our merchants and their customers we have just increased our finishing room space by 50%. All of the equipment is new and the flow is streamlined so that we are getting much more than a 50% increase in our finishing capacity.

"All in all, as I see it, our opportunities for growth in the market are better today than they have ever been in the history of the company and the capacity of our mills is larger now than ever. It makes me feel especially optimistic when you consider the record volume of industry sales these days. We know it will continue to expand. While we're confident our sales will grow proportionately, we're aiming higher, and we're determined to see our share of this market increase as well."

The World War II veteran (Lt. U.S. Navy) is a graduate of St. Mark's Prep School and Princeton University. In addition to his new job at New York and Penn, Mr. Paine is a director of Armstrong Forest Co., Armstrong Realty Co., and Willsboro Realty Co., subsidiaries of New York and Penn.

Mr. Paine lives at Locust Valley on Long Island with his wife and five children. ■

# Conway Hotel Has New Look

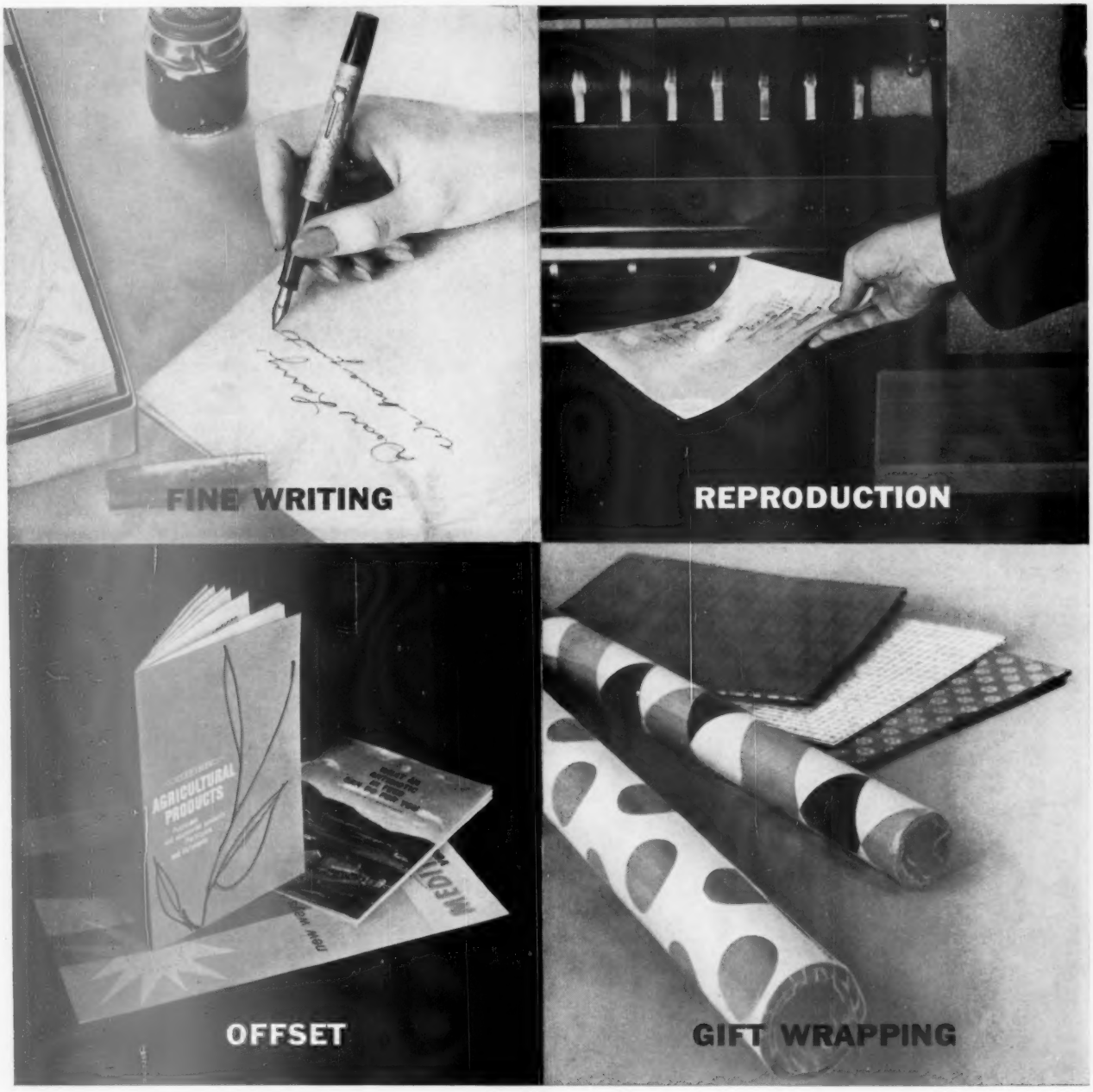
A FLAVOR of the legendary "boom days" of the great logging and lumbering years has been retained in north-central Wisconsin. In those days the meeting place of the great families and the then-aborning paper industry was the Conway Hotel (in the early years, the Sherman House) in Appleton.

Change and progress came to papermaking, and change and progress have come to the Conway. The "old part" is no more, and in its place rises a six-story brick-and-aluminum Conway Motor Hotel that would overwhelm any of the industry's pioneers who might wander by today.

An automatic gravity-feed conveyor moves luggage from car to main desk. Automatic elevators whisk guests to their rooms.

The old Conway—scene of many a roistering "paper convention" in the old days—is no more. Oldtimers may regret its passing, but at the Institute of Paper Chemistry, in paper mills up and down the Fox River, in TAPPI and PIMA groups are those who rejoice that their guests may now enjoy a higher standard of hotel facilities in this midwestern "Paper City."

NEW SIX-STORY ADDITION to the Conway adds 72 guest rooms.




# Eight papers . . . improved by a

*Name your paper*—and Alberta HI-BRITE Pulp will help you make it better! Now proved in more than one hundred North American paper mills, Hi-Brite is truly the modern pulp for modern, quality papers.

Why does Hi-Brite do so much more than ordinary pulps? *First*, it's produced exclusively from northern spruce and lodgepole pine. *Second*, Hi-Brite pulp is "cold-blown" from Kamyr continuous digesters to preserve the bonding strength of the long, thin fibers. *Third*, Hi-Brite's ultra-modern bleaching process actually improves the inherent strength of the unbleached fibers.

Hi-Brite . . . and Hi-Brite alone . . . has this

# single pulp–Alberta Hi-Brite®!

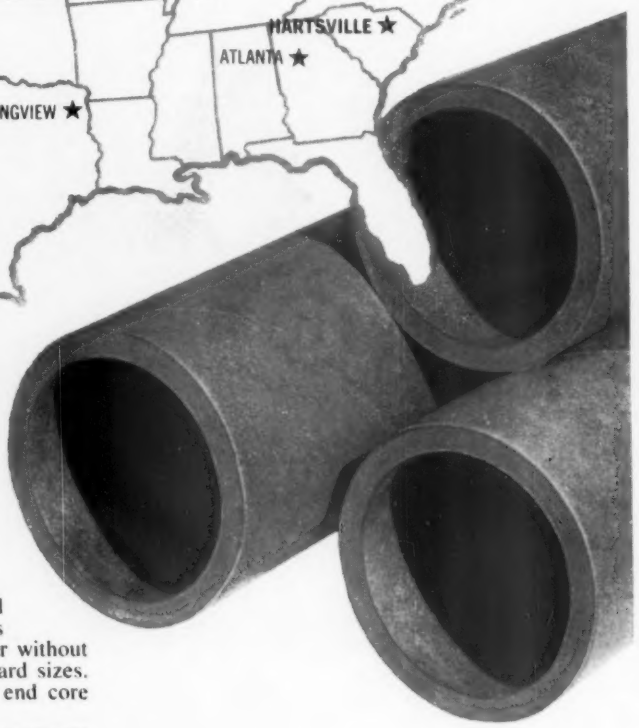
unique combination! The result–a uniform pulp of gleaming whiteness with outstanding bonding properties!

Get the full story on Alberta Hi-Brite Bleached Sulphate Pulp... and the advantages it offers your paper-making operation. St. Regis Paper Company, 150 East 42nd Street, New York 17, N. Y.

KRAFT DIVISION

**St.Regis** PAPER COMPANY

GET **more** FOR YOUR **core** DOLLAR....



## A Sonoco core specialist is nearby!

Core specialists are located at SONOCO plants from coast to coast to personally assist you. They represent a company that can meet your most demanding requirements for core strength, tolerance and economy. This is possible because SONOCO has 60 years' experience, completely integrated manufacturing facilities and a continuous research program.

SONOCO cores are made to exacting torque and crush strength specifications. Non-returnable cores are available in all sizes. Returnable cores, with or without famous SONOCO metal ends, are made in all standard sizes. SONOCO can also supply a complete line of metal end core machinery and core cutters.

Regardless of your core needs, you'll get more for your core dollar from SONOCO in service, quality and economy. Call or write today!

**Main Office—Hartsville, S. C.**

- Mystic, Conn.
- Akron, Ind.
- Ravenna, Ohio
- Lowell, Mass.
- Holyoke, Mass.
- Phillipsburg, N. J.
- Longview, Texas
- Philadelphia, Pa.
- La Puente, Calif.
- Fremont, Calif.
- Atlanta, Ga.
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# SONOCO

## Paper Mill Cores

**SONOCO PRODUCTS COMPANY**

*Solve your coating problems*
*economically with these unique*
*new families of starches . . .*

**MILO-FILM®**
**and GLOBE®**
**EASY-ENZ**
*starches*

**WRITE OR PHONE** *Corn Products for expert technical assistance . . .*
*helpful data on these fine products for Papermakers:*
**BUFFALO® · GLOBE® · TEN-O-FILM® · MILO-FILM® · TEXO-FILM® · FOXHEAD® · CORAGUM® · CORAGUM® FD · CRESCENT® CLARO® starches · GLOBE® and GLOBE® LAM-O-DEX® dextrines and gums · EXCELLO® dextrines**

**CORN PRODUCTS COMPANY** INDUSTRIAL DIVISION • 10 East 56 Street, New York 22, N. Y.

# New production Waterbury felts on the way to save a mill money

What you see here is the progeny of one of our better corporate marriages on the way to help some fine paper mill keep quality *up* and costs *down.*

They are still Waterbury felts, loomed in the well-known Waterbury mill in Skaneateles Falls, N. Y. The difference is that like all *new production* Waterbury felts, they now benefit from the vast technical skills of the Porritts & Spencer group, largest producers of papermakers' felts in the world.

Many mills have discovered for themselves how superior these *new production* Waterbury felts are. If you are curious to know whether they can also help you, please phone or write us.

**THE WATERBURY FELT CO., INC. Skaneateles Falls, N.Y.**

Member **PORRITTS & SPENCER** Group

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TENNESSEE CORPORATION

# SULFURIC ACID

## WE ARE BASIC PRODUCERS

SERVING THE GROWING SOUTHEAST

The Sulfur contained in our ore yields Virgin Sulfuric Acid of highest quality – We produce all grades and strengths of Sulfuric Acid from 60° Baume through the various Oleums.

Call JAckson 3-5024, Atlanta, Ga., or write:

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612-629 GRANT BUILDING, ATLANTA 3, GEORGIA

"K&M" Cavity Deck possesses all of the features of "K&M" T-Deck. However, it also incorporates a flat ceiling to the underside of the roof.

# New "K&M"® Decking Material solves problem of high humidity

"K&M's" new T-Deck puts indestructible Asbestos Cement to work against the ravages of humidity. It won't corrode. It's completely incombustible. Never needs protective painting or periodic maintenance. Assembles in any weather. No heavy hoisting gear or scaffolding required. All installation is from top side of roofing structure. And, "K&M" T-Deck has a high strength-weight ratio. *Recently, "K&M" T-Deck reduced insurance premiums by $5.50 per thousand for a user, and also saved him the cost of 30 tons of structural steel.* Of course, such savings depend on your structural design and your local insurance underwriters. Find out more about this durable and economical asbestos-cement roofing. Just write to: *Keasbey & Mattison Company, Ambler, Pa., Dept. B-4341.*

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ANOTHER ACHIEVEMENT IN MODERN FLOW CONTROL BY CRANE

# CRANE 125-AND 150-POUND UNION BONNET BRONZE GATE VALVES

**STRONGER CYLINDRICAL BODY DESIGN FOR LONG SERVICE LIFE**

Every part of these new valves has been carefully engineered and liberally proportioned to assure an extra safety factor over the recommended working pressures. Unlike ordinary pinched-in, rectangular body valves, Crane's cylindrical body—the same design used in Crane's heavy-duty 200- and 300-pound bronze gate valves—distributes pressure loads uniformly and reinforces seat against the wedging action of the disc.

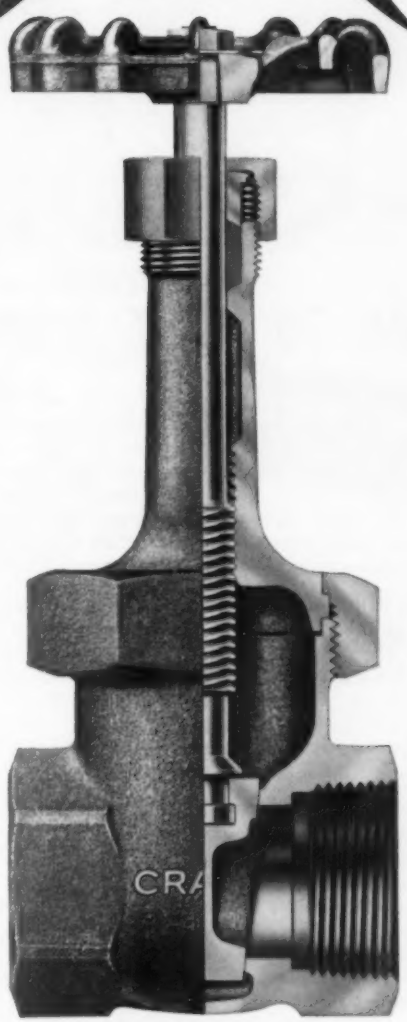
Wider, huskier hex ends combined with the new body shape give this valve greater rigidity, reduce chance of leakage and early failure resulting from piping strains. They make for easy installation, too.

Many other Crane features—the deep stuffing box that can be repacked under pressure, substantial thread engagement between stem and bonnet, and a precisely fitted bonnet joint—make this valve a best buy for safe, dependable, long service on steam, oil, gas and water lines.

Crane's 125- and 150-pound Union Bonnet Bronze Gate Valves are made in ¼-inch to 2-inch sizes with either a solid or split wedge disc. Both disc types are carefully machined and fully guided for positive, easy operation.

Your Crane Distributor has these new valves in stock. Contact him for information or write Crane Co., Industrial Products Group, 4100 S. Kedzie Avenue, Chicago 32, Ill. In Canada, Crane, Ltd., 1170 Beaver Hall Square, Montreal.

NO WASP WAIST ON THIS VALVE



CRANE

VALVES • PIPING • ELECTRONIC CONTROLS
PLUMBING • HEATING • AIR CONDITIONING

# HOW TO MAKE *more* MONEY IN SMALL-TIMBER LOGGING

DIGGING · LIFTING
**HANDLE WITH CASE** *Utility*
GRADING · CARRYING

Have you ever figured how much *extra* it costs you to use an *over-size* skid-tractor on timber that could just as easily be handled by a low-cost Case *Utility* rig? And have you considered the *extra* cost of letting a big machine *"sit idle"* for a week — two weeks — waiting for the right ground condition?

Simple arithmetic shows that for small and medium-size logs, you'll be hundreds of dollars ahead with a Case 310E Dozer-Winch tractor. It costs only a fraction of the price of larger rigs... in fact, you can own two 310's for the price of one larger outfit. With the 310E you also pay much less for fuel, upkeep and repairs... less for insurance and depreciation... and require a lot less clearing and trail-building for this compact skidder.

Yet, with all its economy, the rugged Case 310E gives you *5815 lbs drawbar pull* with high breakaway torque. It maneuvers easily in close quarters and soft ground... turns *full loads* with full *power on both tracks*... has extra-high ground-clearance for traveling over obstacles. Model 310E is offered with *economical Case diesel or gasoline engine.* Wide-mount 72" x 24" bulldozer lifts to full 42" for easy decking and pushing. Universal-joint-type cylinder-mount protects hydraulic components against stress. 310E is also available with mechanical angling dozer, hydraulic power-tilt or power-angling dozer; with 3500-lb capacity log-loader; or as drawbar tractor.

Built-in CARCO 12,000-lb line-pull winch gives you smooth positive winching, holding, or free-spooling at all times — "on-the-fly" or standing still. A single hydraulic lever provides convenient winch control from the cockpit. Three- or four-roller fairlead gives you wide-angle winching with minimum cable wear.

Call your Case Dealer for free 310E demonstration on your show. You'll see how easily it handles your smaller timber at big savings in first-cost... plus *lower net cost per bd ft,* all year long. Mail coupon for complete information on machines that interest you.

| **Compare true ownership costs!** | Case 310E | vs | Over-size Tractor |
|---|---|---|---|
| Initial investment | $6000* | | $15,000* |
| Yearly depreciation and interest costs (17%) | $1020 | | $2550 |
| Daily ownership cost (dep, int, based 200 days/yr) | $5.10 | | $12.75 |

*Avg del price, U. S. A.

***Wouldn't you rather have the saving in your pocket?***

CU-D-272

**J. I. CASE CO., Dept. D1791, RACINE, WISCONSIN**

**CASE.** *Utility*

Send full details on 310E *Utility* skid-tractor and other logging equipment.

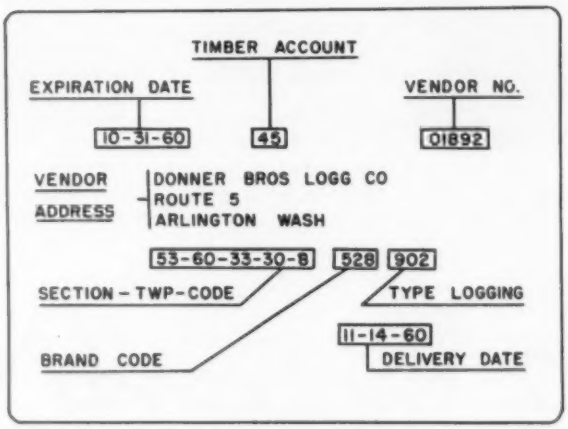
Name _____ Title _____

Company _____ Address _____

City _____ State _____

# 1. Buying Wood By Credit Card

## Scott Paper introduces "filling station" method to pulpwood




SCOTT CREDIT CARD includes all important items such as contract dates, vendor's name, address, type of logs, size and price plus total of sale.

—Everett, Wash. THE CREDIT card has entered pulpwood buying. Scott Paper Co. here at its Everett, Wash., pulp and paper mill has adopted the "gas station technique" for purchasing pulpwood. By using a credit card system, pulpwood suppliers are paid quickly and complete, accurate data are easily obtained for company records.

First step in the system is for the supplier to make out application for a card. In some instances the necessary information can be obtained from company records or from pulpwood contracts.

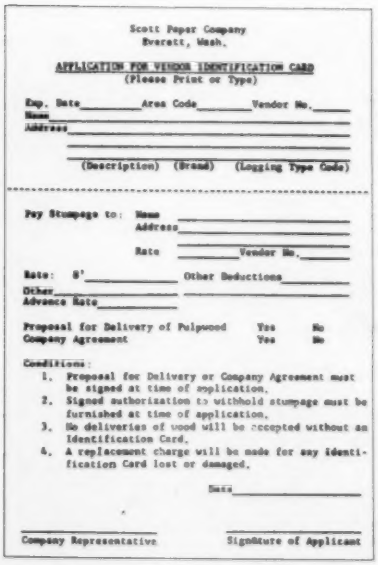
Credit cards are made up from this information. The supplier is then supplied with the necessary number of credit cards (each truck must have its own card, the company does not keep any in its possession.)

As the truck enters the woodyard, the driver gives the credit card to the scaler and is credited with the pulpwood sale. The actual card lists: When logging contract expires, company's stumpage account, the vendor number, contract number, vendor's name and address, identification of the area in which pulpwood was cut, log brand, delivery date.

**One of the many attractive features** of this system is that whoever is operating on company land has a card and company personnel can always check if a question arises about an operation on company land.

The scale ticket is made out in quadruplicate and must be signed by both the truck driver and the company scaler. First copy goes to the vendor or seller, second to the trucker, third and fourth copies to company records.

Chips, 8 ft. wood, long logs are all handled in a similar manner. For instance, a number "2" under net cords indicates the ticket for long logs. Similar code numbers are used to designate short wood, chips, etc. Codes are also used to indicate the vendor's number, cutting area, account, contract number, brand code and type of logging. These vendor "credit cards" are used for all types of deliveries including both truck and rail.



Scott Paper Company
Everett, Wash.

APPLICATION FOR VENDOR IDENTIFICATION CARD
(Please Print or Type)

Exp. Date_____Area Code_____Vendor No._____
Name_____
Address_____

(Description) (Brand) (Logging Type Code)

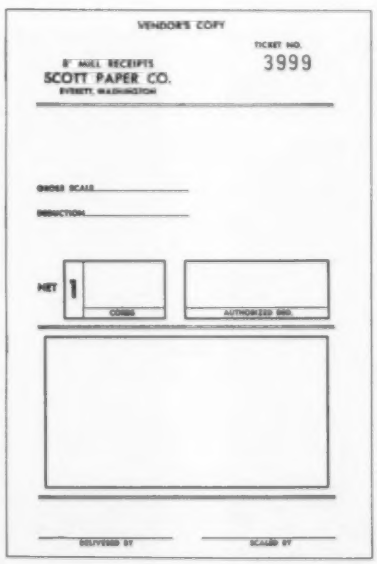
Pay Stumpage to: Name_____
Address_____
Rate _____Vendor No._____
Rate: $_____ Other Deductions_____
Other_____
Advance Rate_____

Proposal for Delivery of Pulpwood Yes No
Company Agreement Yes No

Conditions:
1. Proposal for Delivery or Company Agreement must be signed at time of application.
2. Signed authorization to withhold stumpage must be furnished at time of application.
3. No deliveries of wood will be accepted without an Identification Card.
4. A replacement charge will be made for any Identification Card lost or damaged.

Date_____

Company Representative Signature of Applicant



VENDOR'S COPY

TICKET NO. 3999

SCOTT PAPER CO.
EVERETT, WASHINGTON

GROSS SCALE_____
DEDUCTION_____

NET 1
CORDS
AUTHORIZED BRD.

DELIVERED BY
SCALED BY

TWO FORMS used in system are application blank, which is used to establish vendor's qualifications, and scale ticket for purchase.

## Credit cards for pulpwood . . .

**Each day's tickets are tallied** daily through the accounting department. A regular adding machine tape run is made to obtain total cords represented. IBM cards are then keypunched, one for each load. Only three numbers are punched: The vendor number, the code number indicating type of wood and the number of cords.

The cards are then verified and run through IBM to total cords. If machine and tape totals agree, the purchase is verified. When payment is made, name, number address, loads delivered, price, dates and dollar total are included with the check.

**System is fairly inexpensive** if IBM equipment is already being used. Cost of equipment for making out vendor type identification cards is about $50. Cost of each tally card is about 18 cents. If IBM machinery is not available, work can be done on a contract basis by a regular IBM service bureau.

Other uses are also opened up through use of this system. Example: Those companies purchasing pulpwood by weight and using Print-O-Matic weight recording devices can use this system to eliminate all manual recording on the scale sheet. It can also be used for inventory control, both for placing and reclaiming from inventory and for stumpage and timber sales and other forest product sales that can be so identified. ■

# 2. Hardwoods Substitute for Steel on Tractor Rollers

IN THE NORTHEAST, Great Northern Paper Co. was faced with the problem of rollers on its heavy duty D-7 type tractors freezing up and failing to turn when the weather got rough, particularly during heavy snows.

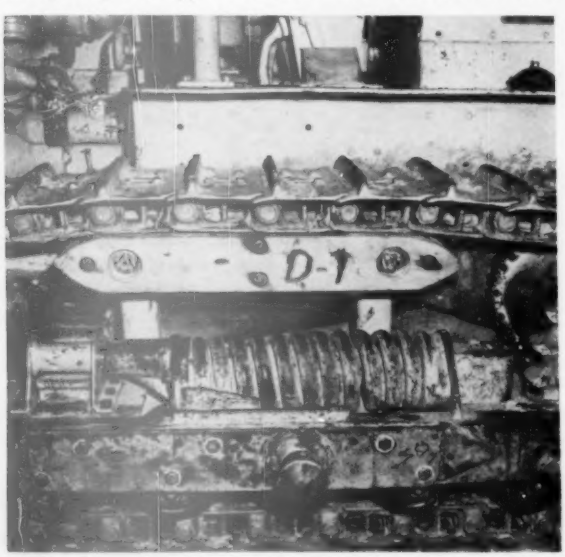
Some 10 years ago its Greenville machine shop came up with the idea of replacing the rollers in winter with hardwood blocks. It has worked so successfully that it is now standard procedure. A major cost saving was accomplished by reducing excessive spot wear on rolls and tracks.

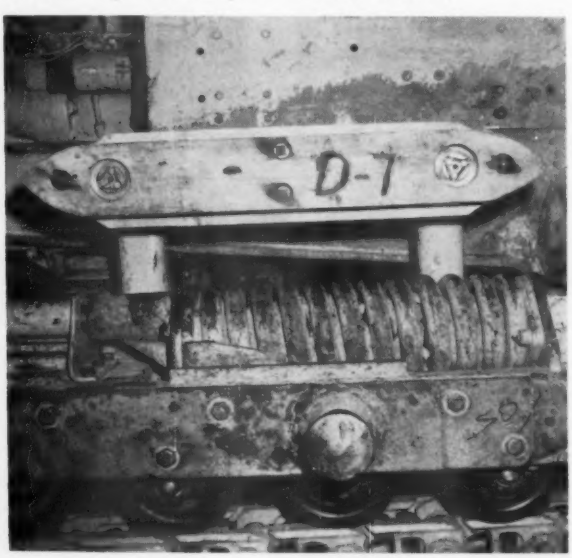
Blocks are made of three hardwood plank stock blocks with the center piece wider than two outside "rollers." The outside pieces therefore serve as flanges and guide the tracks.

Previous to replacing the top rolls on their D-7's (used for towing sled trains) with the wood blocks the company had to replace all top rolls once a year. At $30 a roll this gave them a maintenance cost of $240 per tractor a year. The hardwood blocks cost $32.95 each (made in the company shop) and the cost per tractor per year has thus been reduced to $16.50 since the blocks last roughly four years. Net saving per season is $223.50 plus greatly extended track life.

It should be noted that this method of saving rollers and track life is not new with Great Northern. There have been reports that blocks are being used in northern sections of the U.S. and in Canada as well. ■

WOODEN BLOCK serves as roller under tractor tracks on heavy duty D-7 type crawler. These are used in winter when rollers sometimes freeze up, causing excessive spot wear. At right is closeup of "hardwood roller."



# 3. One Man = Two With Radio Logging

REMOTE CONTROL logging is graphically illustrated here as one man directs log from woods onto his pulpwood truck.

A RADIO-CONTROLLED winch which enables one man to function as both chokerman and winch operator is proving practical and saving money for an operator in the Northeast.

The pulpwood man is Archie DeMaranville who, with his son Richard, has been successfully using a prototype radio-controlled winch in Plymouth County, Mass., since April 1958.

A mast and boom are mounted on a truck powered by a Kessler gear-driven winch with 250 ft. of wire rope. Young DeMaranville hauls out the line, hooks onto a log, presses the button on a model airplane control type transmitter and the winch reels in the log like a big fish. He can start, stop or put the winch on free-wheeling simply with the press of his finger. DeMaranville claims the system is safer than working with a helper.

To load with the system he disengages the radio-controlled Servo unit from the winch and operates it manually. More intricate radio equipment could eliminate this present disadvantage of going through four steps each time.

**Cost of operating the radio** equipment aside from depreciation on the investment of possibly $1,500 to $2,000 has been limited to replacing the batteries in the transmitter every two to five months. Thus, the elimination of a helper is a saving almost equivalent to whatever his wages would amount to. Radio equipment virtually does not wear out.

The radio system was designed and built for the most part by Robert Woodward of Rockland, Mass. The basic skidding unit was already being used manually and is similar to hundreds in use throughout the country. The interesting aspect is the electronic equipment.

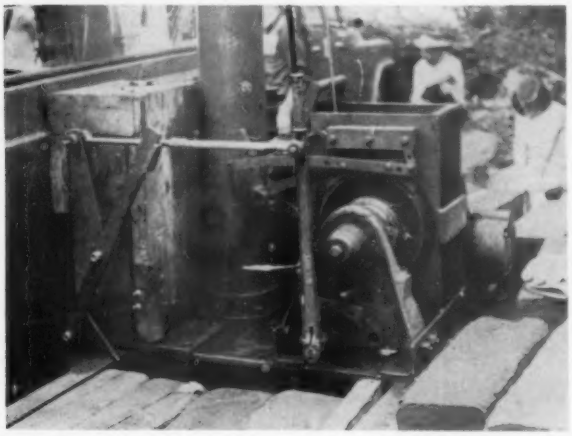
**Frequency used for the system** is 27.255 megacycles, one of five "citizen's band" channels available to any U.S. citizen. Power limitation imposed by the FCC is five watts for this type of service.

One transmitter is a converted model airplane control about 12 inches square and easily carried in the hand. Another type is strapped to the operator's back. Voice is not used. An electrical impulse is sent from the transmitters which the receiver picks up.

The receiver activates an electrical Servo unit through a solenoid. The Servo unit in this case is a surplus airplane engine starter motor. The Servo is attached by linkage to the winch control handle and is powered by the truck battery. Mr. Woodward estimates that using new equipment throughout, the approximate cost of equipment and material would be about $1,000 for the radio gear and Servo mechanism. A fair guess at the selling price which would allow a manufacturer a reasonable profit would be $2,000 per installation.

**One disadvantage to the radio** control system is that the "citizen's bands" are notoriously subject to interference because of heavy loading. Certain types of medical equipment are also on 27.12 M.C. which causes severe interference near larger cities. However, the DeMaranville operation has experienced no extreme difficulties within 40 miles of Boston. ■

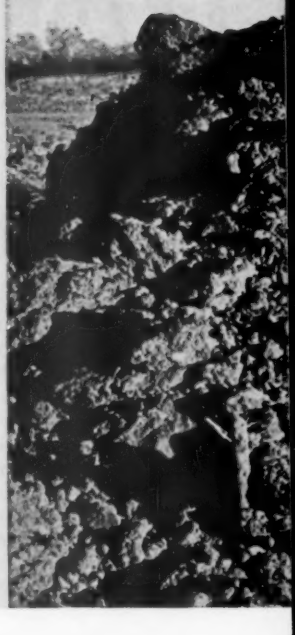
WINCH AND BASE of mast are mounted on bed of pulpwood truck with Servo unit in wooden box behind.



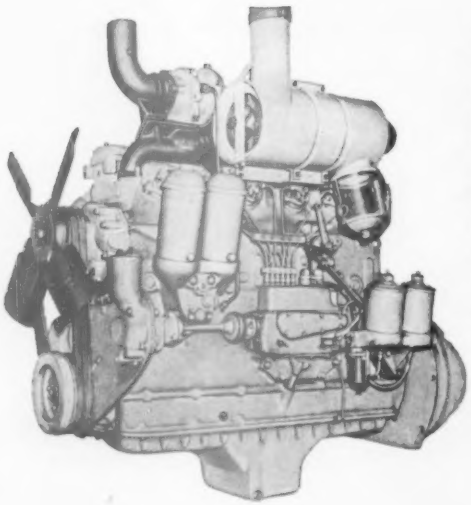
WEARING CONTROLS, operator carries tongs to log in the woods, hooks it up and then just pushes a button.

# NEW International TD-

## ...built to "BEEF UP" your profit edge!

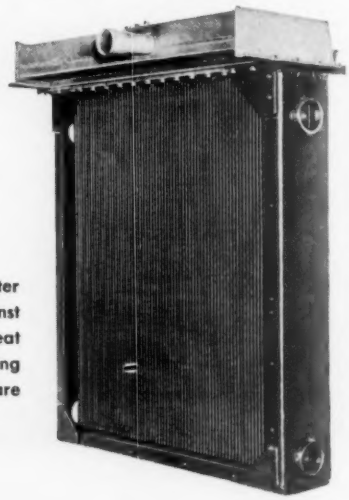


**From air intake to new fixed drawbar**—from day-to-day dependability through year-in, year-out durability—new strength, new performance protection, new work capacity are built into the new TD-20. Check and compare the advantages of International turbocharged Diesel power, teamed with beefed-to-match new transmission and final drive components—platformed on a far stronger-than-ever undercarriage—turned into new efficiency by International-built tracks, kept in life-prolonging alignment by exclusive International 3-point suspension. See your International Construction Equipment Distributor for a new TD-20 demonstration.



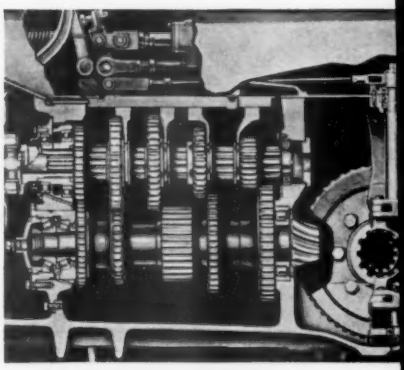
**New Turbocharged Diesel Wallop**

Modern turbocharging crams air into the new TD-20's smooth running 6-cylinder engine—to produce extra hp efficiently at all altitudes; and to give a 50% torque rise to lug larger overloads. Crankcase ribs are "beefed up;" cooling, air cleaning, and crankshaft capacity all are increased to team with turbocharging. Push-button TD-20 starting is by famous International gasoline-conversion system!



**Larger radiator plus jet head increases cooling capacity**

Coolant, under pressure from the new greater capacity radiator, is shot through jets against lower surface of TD-20 heads—to aid heat transfer and avoid build-up of heat-trapping deposits. Fan shroud and radiator guard are "heavied" for increased rigidity.



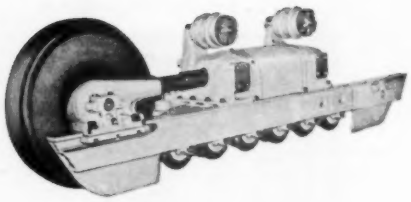
**New transmission capacity ...New filtering system added**

Heavier shafts, more rugged gears, and roller bearings of greater capacity are provided—to carry increased hp and add thousands of hours to working life of power train components. New transmission oil pump circulates and filters life-guarding lubricant. New "short-travel" levers add operating ease.

# -20

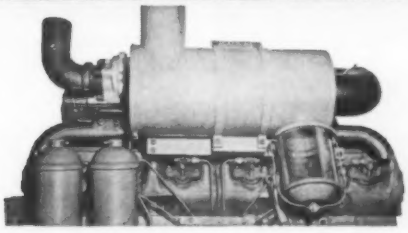
**(201 SERIES)**

New 140-hp International TD-20 crawler tractor. Develops 113 drawbar hp. Powered by 6-cylinder DT-691 Turbocharged Diesel engine. New capacity 6-speed, full-reverse transmission is controlled by new short-travel gear-shift and Shuttle-Bar levers.



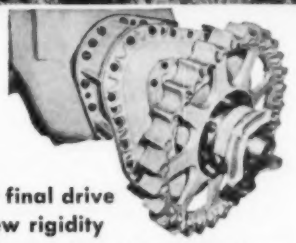
**New Undercarriage Strength and Protection**

New drum-type front idlers add strength... International also adds track chain guides to both sides of the TD-20's precision-welded double box-beam track frames! New track roller shields are of cast steel. New heavier strutless track links are self-cleaning and power-saving. The new hydraulic track adjuster, with built-in safety relief is "standard" on the new TD-20. And full-floating seals of increased efficiency guard Dura-Roller life!



**New 99.8% efficient Dry-Type air cleaner**

For positive "breathing" safety, the full air volume taken in by turbocharging is "dry-cleaned" of 99.8% of its dirt—by the TD-20 Diesel's new dry-type air cleaner. Handy, under-hood horizontal mounting—and transparent, quick-dump collector—greatly simplify servicing. Dash indicator shows "red" when cleaner element needs washing.



**New final drive ...new rigidity**

New TD-20 final drives have been strengthened to deliver full torque turbocharged power to the tracks. New sprocket drive doweling increases housing rigidity—helps maintain precision component alignment. Other major steps ahead in TD-20 design include: new torque-taking, life-adding bimetallic steering clutch discs; new pivot shaft inner spacer; new hardness of sprocket drive pinion shaft.

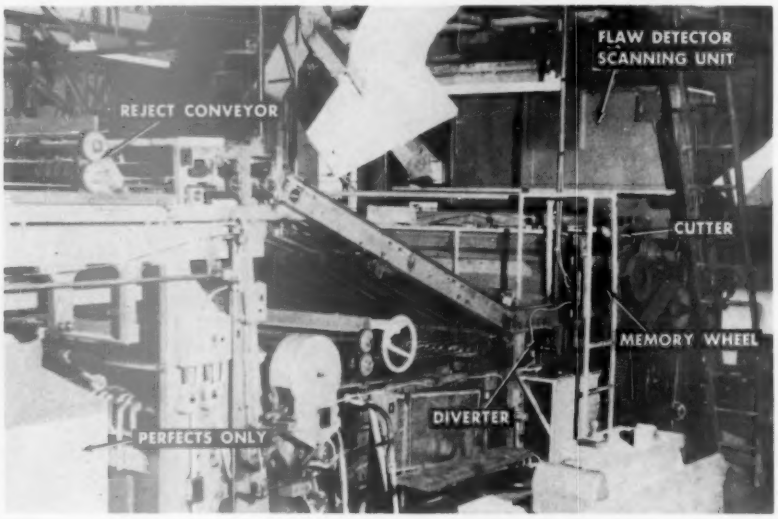
*International® Construction Equipment*

**International Harvester Co.,**
**180 North Michigan Ave., Chicago 1, Illinois**

**A COMPLETE POWER PACKAGE**

# NEW EQUIPMENT

## Electronic sorter rejects defective sheets




*Application:* sheet finishing operations. The Inspectasort scrutinizes the entire surface of a running web feeding into a sheet cutter, detects and "remembers" even the smallest objectionable flaws and imperfections, and diverts the imperfect sheets in a reject pile after they have passed through the cutter.

*Advantages:* The electronic detecting device on the Inspectasort scans across the full web width. Since it inspects only a minute area at a given instant, the signal produced by even a small defect such as a speck of dirt is large. This signal is conveyed to a "memory wheel" mounted on the cutter which automatically diverts sheets previously rejected by the electronic detector. Magnitude of the signal which causes a reject may be adjusted and extraneous signals caused by electrical or mechanical vibrations are nullified by a simple patented circuit.

*Specifications:* All electronic components are of the plug-in quick-change type and most tubes are of the long-life type to reduce possibility of tube failure to a minimum. Equipment can be furnished to operate at speeds up to 1,000 fpm, and can be applied to any make of sheet cutter.

Inspectasort was developed by Provincial Paper, Ltd. a division of Abitibi Power and Paper Co., Ltd. in collaboration with the National Research Council of the Canadian government.

***Supplier:*** **Kohler Coating Machinery Corp., 9701 Cleveland Ave., N. W. Greentown, Ohio; Electronic Associates, Ltd., Willowdale, Ont.**

## Adjustable hydrafoil

**. . . replaces table rolls**

*Applications:* Engineered as a replacement for table rolls, these wire doctor blades are designed to eliminate the pressure ridge generally associated with table rolls and reduce snap back on Fourdrinier.

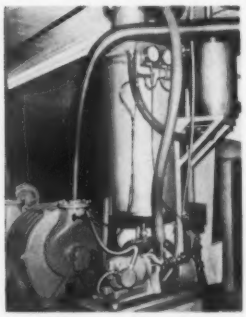
*Advantages:* Maintains a greater degree of drainage from the wire as well as reducing pressure ridges and snap back.

*Specifications:* The hydrafoil wire doctor consists of stationary, semi-rigid extruded cover, head assembly to provide for adjustment of the cover, a support beam and brackets for mounting. In operation, the cover's beveled leading edge both supports the wire and skives water from its underside. Camber of the cover can be freely adjusted while the machine is running to regulate amount of drainage induced by vacuum through the wire. Comparable flexibility with table rolls can be achieved only through substitution of rolls of differing diameters. Since wire doctors may be installed on a minimum of six in. centers, it is possible to replace table rolls with greater number of wire doctors, increasing drainage capacity of Fourdrinier.

***Supplier:*** **Dominion Engineering Works, Ltd., Montreal, Canada.**

## Chemical feed system

**. . . has wide application**



*Applications:* To maintain constant, uniform chemical concentration under control at all times.

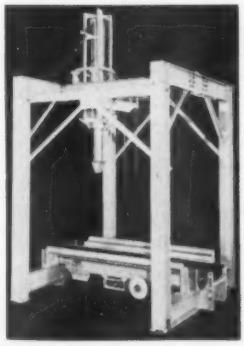
*Advantages:* All valves and piping can be readily disconnected. Sanitary stainless construction permits more efficient clean-up. System recycles returned fluid continuously and rapidly. Packaged units can be installed in conjunction with processing line or chemical compounding equipment in minimum time.

*Specifications:* Unit, made of stainless steel and non-corrosive materials, has main reservoir mixing tank, sanitary circulating pump, full-flow filter, constant-level feed tank, drains and by-pass valves.

***Supplier:*** **Curlator Corp., 501 W. Commercial St., East Rochester, N. Y.**

## Roll breaker

**. . . solves old problem**



*Applications:* Overcomes hand sawing or wedging of imperfectly slit rolls.

*Advantages:* Hydraulic unit reduces task to one-man power-assisted operation.

*Specifications:* Overhead wedge is supported on frame that straddles roll conveyor. Wedge is quickly aligned over slit, then driven down to separate rolls.

***Supplier:*** **Lamb-Grays Harbor Co. Inc., P. O. Box 359, Hoquiam, Wash., Tel: Hoquiam 1000.**

YARWAY news briefs

*from* **Yarnall-Waring Company,** *Philadelphia 18, Pa.*

*BRANCH OFFICES IN 19 UNITED STATES CITIES • SALES REPRESENTATIVES THROUGHOUT THE WORLD*

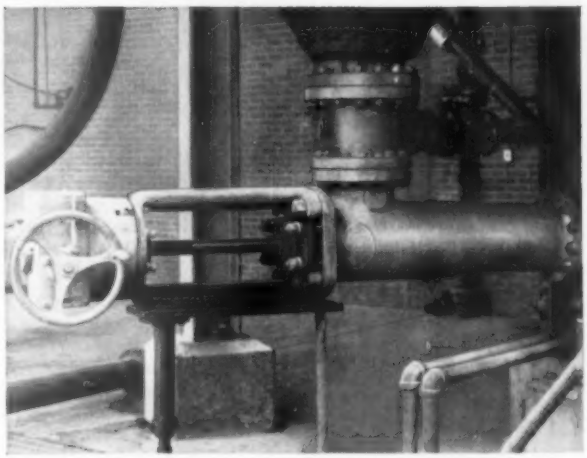
# HOW TO RAISE PULP PRODUCTION... AND LOWER DIGESTER OPERATING COSTS

**YARWAY DIGESTER BLOW VALVES** have demonstrated in scores of mills how they can improve the profit picture *two ways*—by *raising production* and *lowering costs.*

Yarway's famous seatless sliding plunger design *provides up to 100% greater discharge area* over many other digester valves of same nominal pipe size. This gives

1. FASTER DISCHARGE
2. REDUCED BLOWING TIME
3. LOWER PRESSURE DROP

Coupled with CLEANER BLOW and TIGHTER SEAL, it all adds up to MORE COOKS PER DAY, GREATER OUTPUT OF PULP.

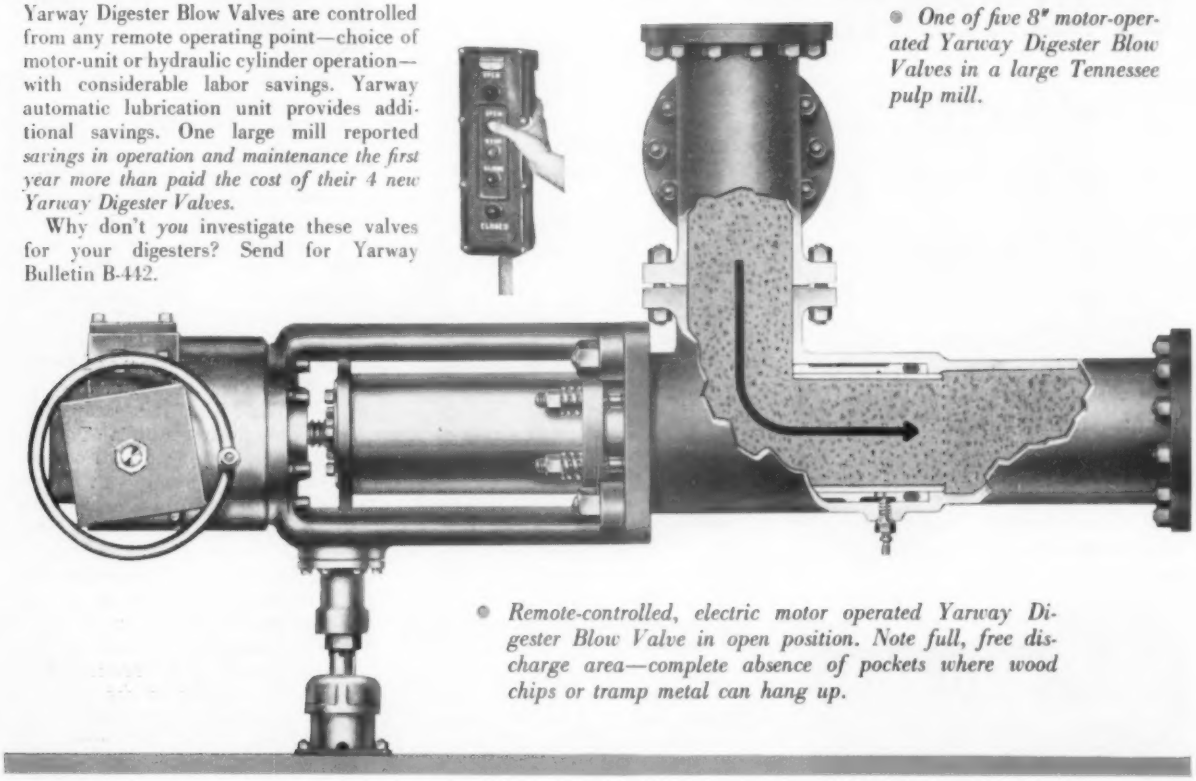


● *One of five 8" motor-operated Yarway Digester Blow Valves in a large Tennessee pulp mill.*

## REMOTE CONTROL

Yarway Digester Blow Valves are controlled from any remote operating point—choice of motor-unit or hydraulic cylinder operation—with considerable labor savings. Yarway automatic lubrication unit provides additional savings. One large mill reported *savings in operation and maintenance the first year more than paid the cost of their 4 new Yarway Digester Valves.*

Why don't *you* investigate these valves for your digesters? Send for Yarway Bulletin B-442.



● *Remote-controlled, electric motor operated Yarway Digester Blow Valve in open position. Note full, free discharge area—complete absence of pockets where wood chips or tramp metal can hang up.*

MULTI-METAL FACE WIRES HARMONIZE ON ALL COUNTS

✓Rugged
✓Uniform
✓Flexible

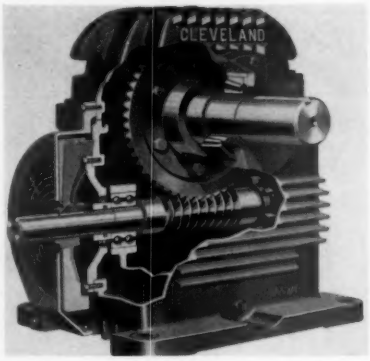
Multi-Metal Single Twist Cable Warp and all popular meshes are available up to 244" wide in stainless steel, Types 304, 316 and 317ELC, and in Monel metal.

Write for Multi-Metal record book and slide calculator. They will be mighty helpful to you—and they're free.

MM MULTI-METAL WIRE CLOTH CO., INC.
1344 Garrison Ave., New York 59, N. Y.


## Speed reducer

**. . . 50% space saving possible**




*Applications:* For speed control on drives, etc.

*Advantages:* Worm gear unit is said to offer horsepower capacities up to 80% higher than those of conventional reducers of same type. Space saving of 50% and more is claimed possible in comparison with reducers of same rating. Advantages are principally due to fan cooling. Radial fan equally effective in either direction of rotation. Fan is mounted on input side of worm shaft to efficiently scour finned outer wall of reducer, thus eliminating extra expense and friction loss in addition of another oil seal.

*Specifications:* New line available in nine sizes ranging from 3- to 12-in. center distances. Ratios extend from 4 1/7:1 to 95:1, ratings from fractional to 175 hp.

***Supplier:*** **Cleveland Worm & Gear Div., Eaton Mfg. Co., 3300 E. 8th St., Cleveland 4, Ohio, Tel: VUlcan 3-4560.**

## Recording controller

**. . . for pressure, temperature**

*Applications:* To maintain pressure or temperature by regulating flow of steam or liquid through diaphragm motor valve.

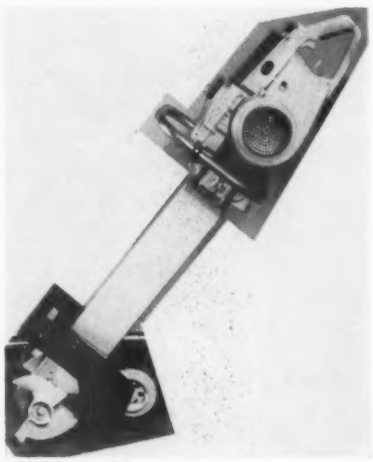
*Advantages:* Accuracy is said to be ±1% total span. To prevent cycling, instrument has a 1-to-10% proportional band adjustment with manual reset. Automatic reset is optional. Graduated proportional band and automatic reset dials may be adjusted without removing chart plates.

*Specifications:* Operating the controller is a sensitive air-measuring system actuated by a process temperature or pressure-measuring system. Air-measuring system operates a high-output pneumatic relay to control a 3- to 15 psi air output. Twelve in. circular 24-hr. chart records with one or two pens. Mechanism is housed in dust- and moisture-proof aluminum case that may be flush- or surface-mounted.

***Supplier:*** **Stickle Steam Specialties Co., 2215 Valley Ave., Indianapolis 18, Ind., Tel: IMperial 7661.**

## Fireline trencher

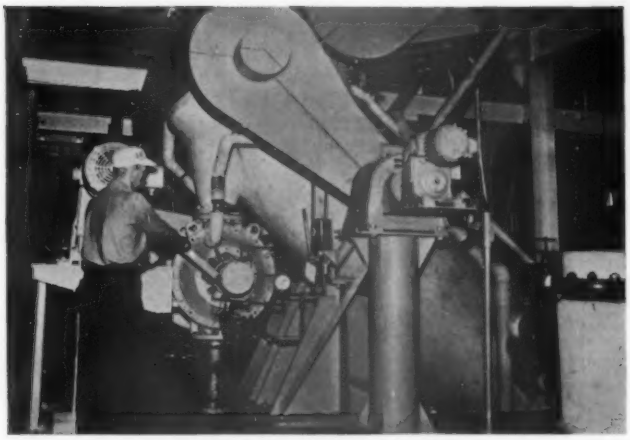
**. . . equals a 10-man crew**



*Applications:* for fireline construction in forestland protection.

*Advantages:* Forest fireline construction can be efficiently and speedily performed with this one-man operated portable power trencher according to the manufacturers of the Foster Fireline Trencher—newly patented attachment tool for chain saws. With thousands of power chain saws readily available in pulpwood and sawlog operations, they can quickly be converted to fireline trenchers and applied to emergency sod and duff dispersal. In operational use, the easily transported and operated Fireline Trencher can effectively cover an area equal to a 10-man crew working with conventional manual tools in reaching mineral soil depths. Also, varied other uses, such as soil erosion control, terracing, and ditching have proved practical. Rocky ground presents no special problem for this tough trencher. It bears up steep grades and into tight spots—backward and forward. High grass yields readily to the churning action of the trencher's augers. Operating from a chain saw motor, the trencher attachment can be replaced

# 3 Types of Automatic Digesters To Increase Mill Capacity

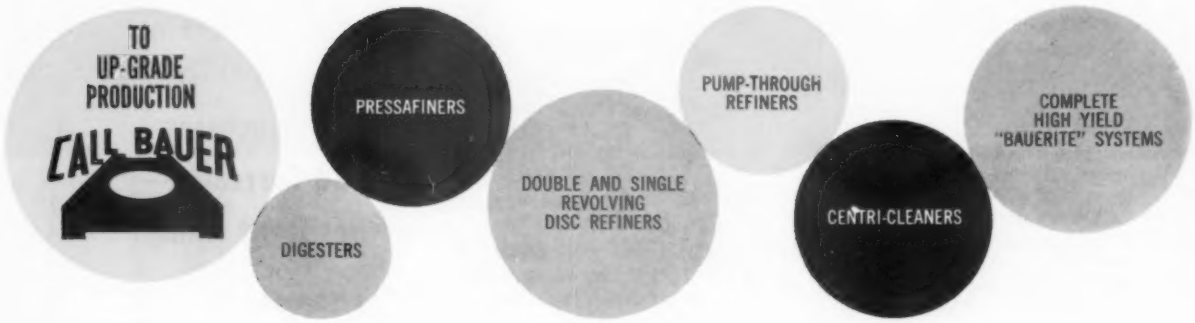


**M & D Continuous Digester.**
Note inlet and discharge valve are on same floor level.

**M & D DIGESTER (continuous)** — Inclined tube type... makes controlled continuous digestion of chips practical. Suitable for wide variety of end products as units are engineered to your requirements. Completely automatic; reduces labor costs, improves uniformity. 90% of unit can be outdoors.

**RAPID CYCLE DIGESTER (batch)** — Fast, automatically controlled batch cooking... high temperatures and pressures (up to 300 psi) reduce cooking time to minutes. For any type pulp and flexibility in procedures... ideal for multiple treatment—presteam, impregnate, vapor phase. Compact... easy to install. Stainless steel... no lining... long life.

**GRENCO DIGESTER (continuous, vapor phase)** — Most economical for vapor phase method of preparing wood chips... automatically controlled... simple in design. To increase output units can be "stacked." Automatic... continuous feeding and discharging... minimum space requirement... relatively light weight.




## THE BAUER BROS. CO.

**Springfield, Ohio**

**IN CANADA: THE BAUER BROS. CO. (CANADA) LTD.**
**Brantford, Ontario**

**Proved Performers IN WOOD CHIP HANDLING...**

**SUTORBILT BLOWERS SERIES 3200**

Designed for 800 to 23,000 cfm at pressures from 2 to 12 psig, Series 3200 Sutorbilt lobe-type positive pressure blowers are thoroughly proved in heavy-duty chip-handling applications. They are available with timing gear diameters from 10" through 26" in horizontal designs. Many sizes also offered with vertical case arrangements.

Check these important features of Series 3200 design:

- distortion-free construction at maximum operating pressure
- one-piece 4140 forged steel shaft slip fitted through impellers attached at rear end, allowing increased pressure and horsepower rating
- increased pressure and horsepower ratings . . . with safety
- oversize heavy-duty anti-friction roller bearings
- accurate phasing assured by alloy steel helical timing gears
- impellers internally ribbed for high strength and stability
- machined sub-bases furnished as standard equipment with all units
- force feed pressure system lubricates timing gears and bearings

Write today for Bulletin S-32-A, Department G.

*Sales representatives in principal cities*

4462 S-33

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IS WELL BUILT

2966 EAST VICTORIA ST. • COMPTON, CALIF.
Subsidiary of Fuller Company • Catasauqua, Pa.


## NEW EQUIPMENT

in seconds if the chain saw is needed. *Specifications:* The trencher's two 6-in. augers chew out a trench 12 in. wide. Forest litter, needles, duff, grass, and dirt are thrown to the sides, making an effective, efficient fireline trench. The trencher is light enough for one man to carry where it is needed. It is light enough to deliver by airplane—and tough enough to take the drop.

***Supplier:*** **The Foster-McCulloch Co., 4190 Franklin Blvd., Eugene, Ore. Tel: Parkway 6-6533.**

### Iron test unit

**. . . simple to use**

*Applications:* To check for presence and amount of iron in water.

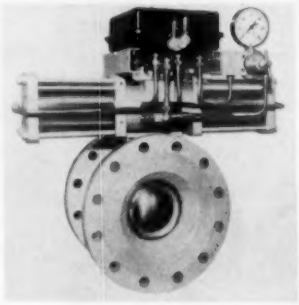
*Advantages:* Equipment can be used by even inexperienced personnel. Operation involves addition of two reagents to water sample and comparison with color slides containing nine standards in sealed glass vials representing iron concentrations from 0 to 1 ppm.

*Specifications:* All reagents and equipment needed for test are included. Supply of reagents sufficient to perform 100 tests is furnished.

***Supplier:*** **Hagan Chemicals & Controls Inc. (Bulletin HSP-933), Hagan Center, Pittsburgh 30, Pa., Tel: WAlnut 2-3737.**

### Automated positioner

**. . . boosts valve efficiency**



*Applications:* To automatically control flow of media through pipe lines.

*Advantages:* Bailey positioning relay (Bailey Meter Co.) serves as throttling device that positions Jamesbury ball valve to any desired rate of flow. Unit translates signals from controller to a pneumatic impulse that acts upon valve itself.

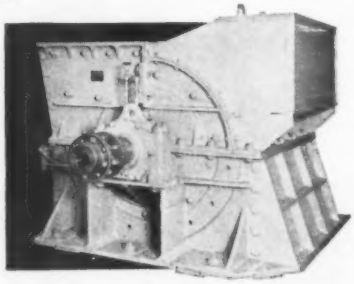
*Specifications:* Valves especially designed to mechanically calibrate flow from 0° to 90°.

***Supplier:*** **Jamesbury Corp., Worcester, Mass., Tel: SWift 9-4167.**


**Gruendler POWERFUL Bark Hogs**

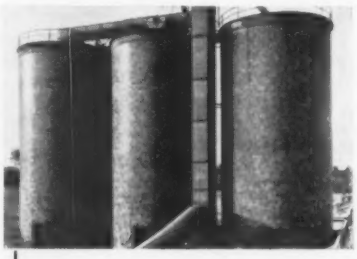
**operate up to 12 months without maintenance!**

These magnificent machines produce easy-to-handle fuel for suspension or stoker burning. Many installations the world over, handling every type of bark as low as 2½ to 3 h.p. per ton.



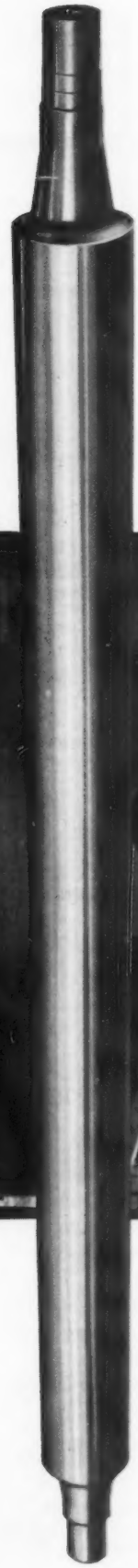
*Write for Catalog 900 showing complete line.*

**Gruendler**
CRUSHER & PULVERIZER CO.
2915 North Market
St. Louis 6, Missouri



**We Design, Erect and Maintain All Types of Tile Structures and Corrosion—Resistant Linings**

**STEBBINS ENGINEERING AND MANUFACTURING CO.**
**WATERTOWN, N. Y.**
Pensacola, Seattle,
Montreal, Vancouver



# UNITED®

CHILLED IRON AND
ALLOY CHILLED IRON

# ROLLS

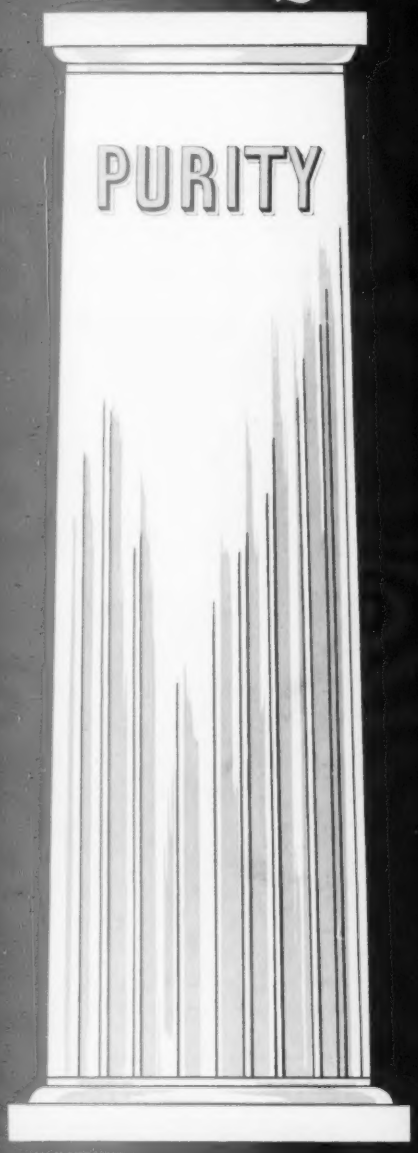
FOR PAPER AND ALLIED INDUSTRIES

- CHILLED IRON ROLLS
- MACHINE CALENDER STACKS
- ROLL GRINDING MACHINES
- ROLL CALIPERS
- KNIFE GRINDERS

UNITED FURNISHES THE LONGEST AND HEAVIEST ROLLS required by the paper industry. United Chilled Iron Rolls for machine calendering give longer service; are uniformly hard and highly resistant to abrasion and deformation. For water finish or high pressure stocks, United rolls of special alloys are available.

UNITED
ENGINEERING AND FOUNDRY COMPANY
PITTSBURGH 22, PENNSYLVANIA

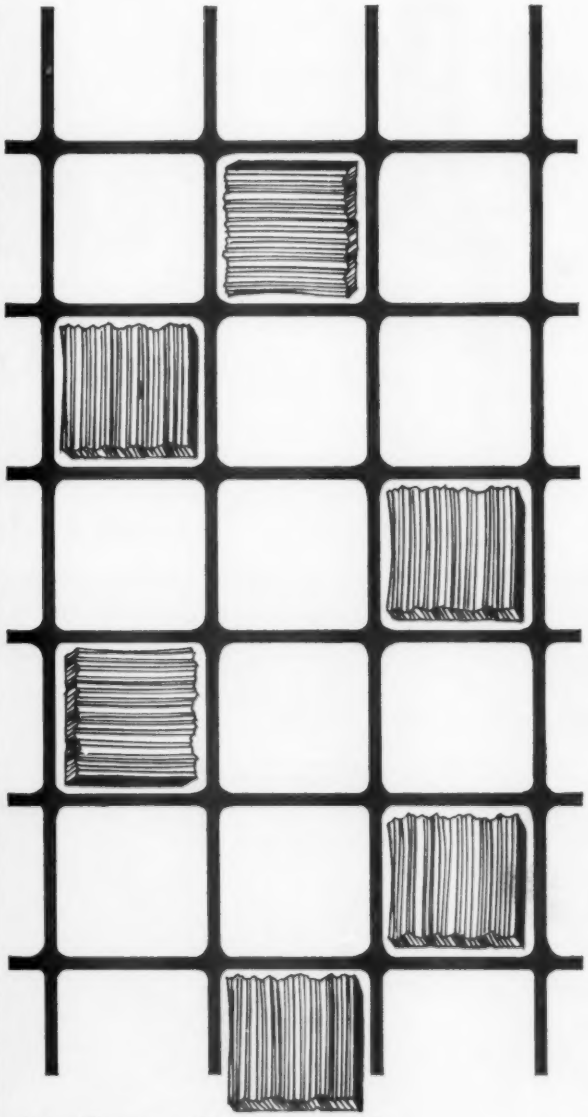
# $SO_2$




Our basic position enables us to control the purity of our chemicals from the raw material to the finished product we deliver.

To the Pulp Industry we offer a dependable source of highest purity Sulfur Dioxide.

TC TENNESSEE CORPORATION
612-629 Grant Building, Atlanta 3, Georgia



## Uniform Chips with longer lasting Heppenstall chipper knives

Heppenstall Chipper Knives produce chips of uniform size and thickness with a minimum amount of sawdust loss. Uniform chips require less variation in degrees of cooking during a batch cook. Pulp quality is more consistent. Longer lasting Heppenstall Chipper Knives reduce the sharpening cycle—decrease your knife costs per ton of pulp.

For more information, contact your Heppenstall representative or write us direct.

**HEPPENSTALL COMPANY**
PITTSBURGH 1, PA.
Plants: Pittsburgh & New Brighton, Pa. • Bridgeport, Conn.

**MIDVALE-HEPPENSTALL COMPANY**
NICETOWN, PHILADELPHIA 40, PA.

# STRICTLY PERSONAL . . .

starts on p. 27 . . . board sales. Mr. Aagaard was formerly midwest district sales rep of Eastern Corp. Earlier he was with Hobart Paper Co. and Munising Paper Co. He is an Army veteran of World War II.

## Canada

Blackmore

Ryan

**Joseph Blackmore**, former paper mill supt., Anglo-Newfoundland Development Co., Grand Falls, Nfd., is now consultant on paper mill administration and has been succeeded in his previous position by **John Ryan.** New assistant paper mill supts. are **Cyril Down** and **Cecil Stein.**

**Robert M. Schmon** is now vice pres., Ontario Paper Co., Thorold, Ont. Mr. Schmon, who lives at nearby St. Catharines, has also been named a director and vice pres., Canadian British Aluminum Co. and Manicouagan Power Co.

**Don J. McLaurin** has resigned as manager, Island Paper Mills, the fine paper subsidiary of MacMillan, Bloedel & Powell River Ltd., at Annacis Island, B.C., which first went into production last year. Mr. McLaurin was with Powell River Co. for several years as control supt. and in other positions before going to the Institute of Paper Chemistry at Madison, Wis., and he later was with Gilbert Paper Co., which he left to direct the engineering and construction of the MB&PR fine paper mill. **Keith Lachance,** formerly production mgr., is now acting mgr. of the mill.

**R. L. Weldon,** chairman of the board, Bathurst Pulp & Paper Co., Montreal, and **Robert M. Fowler,** pres., Canadian Pulp & Paper Association, have been elected directors of Canadian Celanese Ltd.

**E. E. Grainger,** vice pres. (woodlands), Abitibi Power & Paper Co., Ltd., has announced appointment of **M. MacLaggan** as project forester. Mr. MacLaggan was formerly manager of the Lakehead Woodlands Div. and will now be responsible for special projects developed in collaboration with the Head Office Woodlands organization.

## South

**N. K. Hammer,** industrial sales mgr., A. E. Staley Mfg. Co., has announced the promotion of **Alan R. Kimbell** to asst. mgr. of the Atlanta, Ga. branch. Mr. Kimbell joined Staley's in 1955, has worked in St. Louis offices since 1956.

At Gulf State Paper Corp.: **Minor Seay Medders** has been promoted to foreman in engineering operations. Before service in the Navy, Mr. Medders was a roll wrapper in converting. Back with the company in 1950, he worked in mechanical maintenance, helped start up Demopolis plant in 1957.

**John C. Wellons Jr.** becomes Richmond, Va. regional administration mgr. for the Hinde & Dauch div., West Virginia Pulp and Paper Co. He is responsible for administration and personnel at plants in Baltimore, Md., Gastonia, N.C., and Richmond. Prior to his present appointment, he was Richmond regional personnel mgr. . . . **William Paschall** is named sales representative for the Steel Strapping div. of Stanley Works. His territory includes western Tennessee, northern Mississippi and most of Arkansas. . . .

NO Hard or Soft Spots at the Winder with . . .

**RMF hydroscillators**

This simple, compact oscillating unit provides a constant horizontal shifting motion while the sheet is being wound into a roll. This back and forth movement prevents wrinkles from "tracking" and building up throughout the roll. No more wrinkles, no more hard and soft spots!

Check your finishing room...our RMF Hydroscillators will give you a higher percentage of salable paper. For more information send for Bulletin No. 101.

ROSS MIDWEST FULTON
*A Division of Midland-Ross Corporation*
*Box 846, Dayton, Ohio*

# STRICTLY PERSONAL . . .

## East

**Robert G. Fairburn** is now a director of Keyes Fibre Co. He was for many years president of The Diamond Match Co., and chairman of its successor, Diamond National Corp.

**Patrick N. Barrett,** secretary since 1959, takes on additional duties as vice pres. and a director of Castle & Overton Inc., New York; has same positions in Castle & Overton Paper Corp.

**Thomas Compton Walsh,** formerly sales mgr., Hollingsworth & Vose Co., died Feb. 15.

Play It Smart!
Use Bitusize® "B" emulsified asphalt integral sizing to get high dry and wet strength in all your hard sized grades of board. Contact our office nearest you for complete information.
American Bitumuls & Asphalt Company
320 Market St., San Francisco 20, Calif.
Perth Amboy, N.J. Baltimore 2, Md.
Cincinnati 38, Ohio St. Louis 17, Mo. Oakland 1, Calif.
Atlanta 8, Ga. Tucson, Ariz. Inglewood, Calif.
Mobile, Ala. Portland 8, Ore. San Juan 23, P. R.
Bitumuls® Emulsified Asphalts • Chevron® Paving Asphalts
Laykold® Asphalt Specialties
SOAP CHIPS
V3e
DYNAMITE
Cola
V3s
BEER


**Peter W. Oliva,** C. H. Dexter & Sons, Inc., is chairman of the Connecticut Valley division of PIMA. First vice chairman is **John P. Riley,** Chemical Fine Paper & Board Div., Standard Packaging Corp. **Gilbert D. Kittredge,** Crane & Co., Inc., is 2nd vice chairman and **Charles Kelly,** McCluskey Wire Co., Inc., is sec.-treas. **Charles S. Connington,** Lodding Engineering Corp., was named industrial affiliates representative.

**Edgar D. Hinton** is now sales representative in New England for Rader Pneumatics, Inc. He is a graduate of Cooper Union Institute of Technology.

**Clifford J. Pfeifer** has joined R. T. Vanderbilt Co. as technical sales representative in New England and northeastern New York. He was formerly with Geigy and Robt. Gair Co.

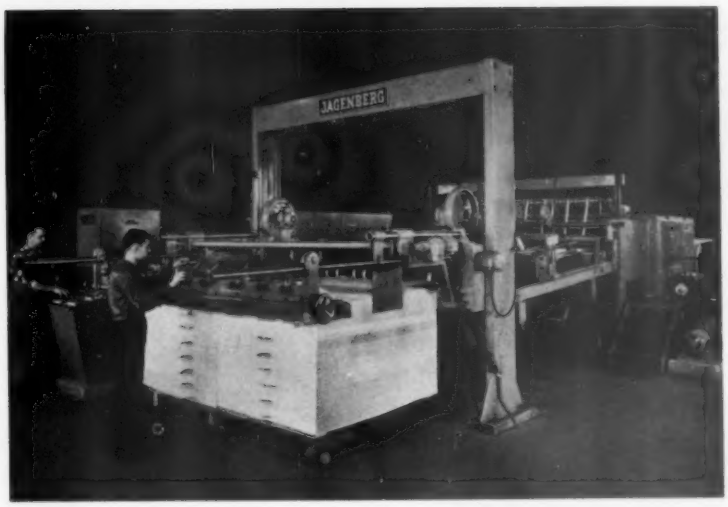
**Robert T. Larkin** has opened an office in Syracuse, N.Y., for J. M. Huber Corp. for sales of clays and pigments to paper industry. Office is at 15 Centennial drive.

## Pacific

Officers elected at recent meeting of Pacific Coast Div. of PIMA to serve for 1961-62 are: chairman, **Louis W. Pumphrey,** Westminster Paper Co., New Westminster, B.C.; 1st vice chmn., **A. Hugh Wickett,** Weyerhaeuser Co., Longview; 2nd vice chmn., **Hardie J. Forkner,** Inland Empire Paper Co., Millwood, Wash.; 3rd vice chmn., **Henry W. Stoltz,** R-W Paper Co., Longview; secy-treas., **Jack M. Wilcox,** Esco Corp., Portland. **Les Peterson,** Morningstar Paisley, Portland, was nominated as affiliates representative. . . . A special motion of gratitude was tendered to **R. Burke Morden,** Morden Machines Co., who has served as secretary-treasurer for nine years.

**Vinton W. Bacon,** exec. secy, of Northwest Pulp & Paper Assn., Tacoma, Wash., participated as feature speaker at 4-state water-management symposium at Phila-

# JAGENBERG

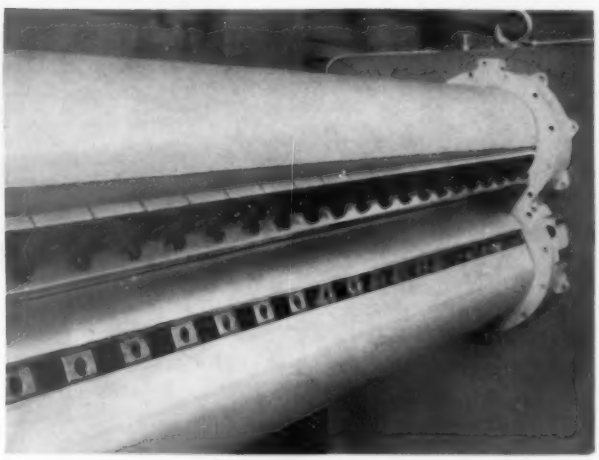



Left: JAGENBERG "SYNCHRO-FLY" Cutter with mounting overlapping layboy at West Virginia Pulp & Paper Co., Covington, Virginia.

Below: The "heart" of the "SYNCHRO-FLY". A pair of rotary cut-off knives which will travel at the web's own speed during the actual cutting phase, irrespective of sheet length and web speed.

## SYNCHRO-FLY® SHEET CUTTER

**THE ONLY CUTTER THAT SHEARS THE WEB INSTEAD OF CHOPPING IT**



IF you desire a cutter with unusually high knife capacity,
or IF you wish a really clean, cliff-like cut-off at any thickness or cutter speed,
or IF you want to eliminate fuzz and dust at the knife cut,
or IF you are interested in drastically reducing the frequency of knife changes,
or IF you can appreciate automatic sheet squaring . . .

**the "SYNCHRO-FLY" may be the right answer for you.**

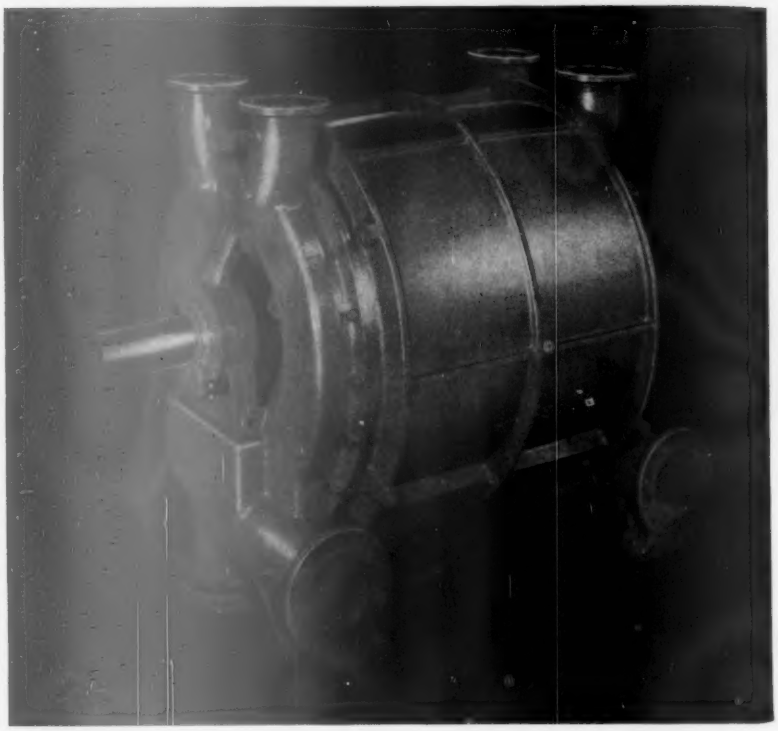
Available as Simplex for paper, pulp or board or as Duplex for pulp or board only. Can operate from rolls or in-line with board machine, pulp dryer or laminator.

## JAGENBERG WERKE A. G. - DUESSELDORF - GERMANY

**Sales and Service: JAGENBERG USA, INC.**
**300 Park Avenue South, New York 10, N.Y.**

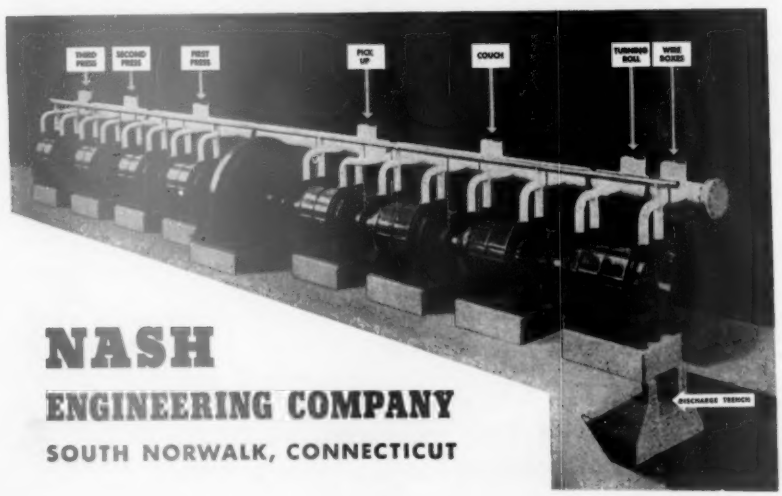
In Canada: JAGENBERG OF CANADA LTD., 209 Davenport Road, Toronto 5, Ont.

# *This New Nash Vacuum Pump Offers Four Separate Suctions and Vacuums Simultaneously*



The Nash 5308-A has four separate suction inlets, each of which functions independently of the others. This offers the machine operator great flexibility, since these may be used in any desired combination to produce a variety of capacities and vacuums.

Picture below shows simple drive possible and flexibility of piping permitting capacities to exactly fit requirements of different sections of the paper machine.




**NASH**
**ENGINEERING COMPANY**
SOUTH NORWALK, CONNECTICUT


## Strictly Personal . . .

delphia in mid-March and stressed the restorative capabilities of streams and the importance of multiple usage of water. . . .

**Dale M. Ott,** formerly of Powermaster Corp., joins Central Research Dept. of Crown Z Corp., Camas, Wash., as associate engineer . . .

## Suppliers

**Bright**

**Rohm**

**William E. Bright III** has been promoted to manager of customer service for Rice Barton Corp. In this move, Rice Barton combines all estimating, proposal engineering, service and outside erection in one single office. Mr. Bright has been with Rice Barton 10 years.

**Jean W. Rohm** moves up as chief engineer i/c research and development. In his new job, Mr. Rohm will use Rice Barton's new $100,000 laboratory for development of new products. Mr. Rohm was previously asst. sales mgr. high velocity dryer applications and installations.

**Hans H. Dirzuweit** is named dir. of felt development and physical research, Huyck Felt Co., Rensselaer, N. Y. At one time with Spaulding Fibre Co., he joined Huyck in 1956.

**George C. Wurtman** is now asst. mgr., pulp and paper div., Nichols Engineering & Research Corp. He's a University engineering graduate.

**Lester M. "Skipper" Start,** for many years known from coast to coast and in other countries as the vice president in charge of sales for Rice Barton Corp., died on March 13. He had been in poor health for years and retired eight years ago.

# TOWMOTOR'S ON THE MOVE

—in more plants, in more ways, with more money-making features. On the move, handling more materials, gaining lost storage, speeding distribution. On the move, raising productivity, lowering costs, increasing profits. Get going with Towmotor fork lift trucks and carriers—made only by TOWMOTOR CORPORATION, CLEVELAND 12, OHIO.

TOWMOTOR
THE ONE-MAN-GANG®

*New slanted "full-vision" cowl that makes load pick-up unusually fast and easy, is an outstanding feature of Towmotor Stream-Liner Series fork lift trucks (above). Load capacities, 3000 to 5000 lbs. Diagram below shows how operator is able to see within 12" of the heel of forks.*

# Reliable Source for Prime Pulps

West Virginia offers these prime woodpulps for immediate shipment:

*Kraftsman Super Unbleached Sulphate* • *Kraftsman Saturating Unbleached Sulphate*

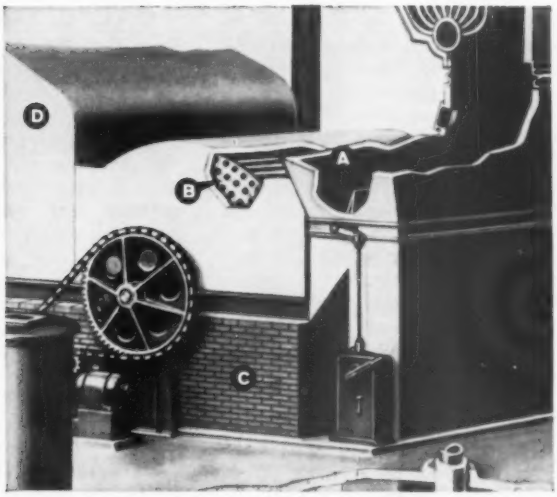
With our mill at the all-weather port of Charleston, S. C., we can provide direct year-round service to most world ports.

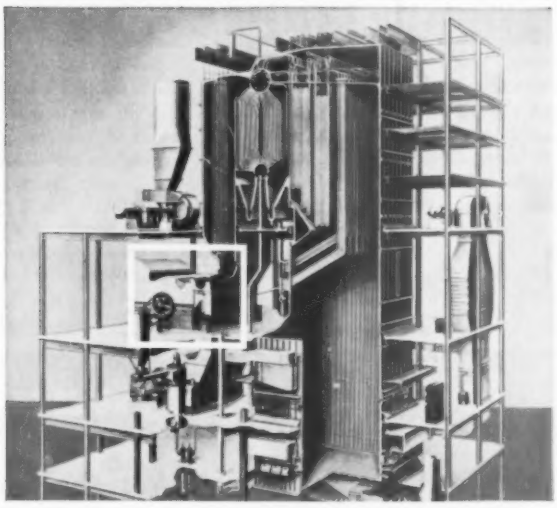
You can depend on West Virginia for consistently high quality woodpulps, reliable service and technical assistance when desired. For full information, address one of our offices below.

WOODPULP AND EXPORT SALES DIVISION, *230 Park Avenue, New York 17, New York, U.S.A.*

*Blackfriars House, 19 New Bridge Street, London, E.C. 4, England*

**West Virginia Pulp and Paper**



Cutaway view of a large C-E Chemical Recovery Unit (lower left) equipped with dual Cascade Evaporators. In the evaporation process (upper left), flue gases, after passing through economizer, are divided by damper **(A)** between upper and lower Cascades. Cylindrical tube bundle **(B)** with sealed tube ends rotates slowly in a bath of hot liquor **(C)**. Hot gases passing over the wetted tubes pick up moisture and leave the Cascade at duct **(D)**. The amount of economizer surface contacting the flue gases is varied automatically — adjusting temperature and evaporation rate.

# Why CASCADE Evaporators?

***When coupled with an electrostatic precipitator,*** the C-E Cascade Evaporator affords the utmost in dependable, low-cost chemical collection and liquor concentration. For example . . .

Automatic controls provide exceptional flexibility of operation. With these controls, furnace stability is easily maintained at a high level, even though the density of liquor entering the evaporator may vary widely. And — because the Cascade Evaporator is mechanically simple and efficient — it performs with a minimum of power consumption and personal attention.

Why settle for less when you specify evaporators? The C-E *Cascade* Evaporator is your most *practical* liquor-concentrating method in the long run. The unit is standard in C-E chemical recovery installations and is recommended for new and existing systems of all makes. Write or call the Paper Mill Division in New York for particulars.

**COMBUSTION ENGINEERING**

C-E

C-267

**General Offices: Windsor, Conn.**

**New York Offices: 200 Madison Avenue, New York 16, N. Y.**

**CANADA: Combustion Engineering-Superheater Ltd.**

ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; NUCLEAR REACTORS; PAPER MILL EQUIPMENT; PULVERIZERS; FLASH DRYING SYSTEMS; PRESSURE VESSELS; SOIL PIPE

# LETTERS to the editor

### Some Comments on the Scudder Waste-Newsprint Project

(Eds. note: This is a comment on Richard B. Scudder's plans to make a low-cost deinked newsprint—newsprint at the new Garden State Paper Co., being built at Garfield, N.J.

While the author has requested that his name be withheld, his comments seem sufficiently interesting to publish even under these conditions. The author is leading executive of one of principal newsprint producers in North America.)

EDITOR: The introduction of a new process to make newsprint has been an objective of many people for many years. So far no one has really succeeded, but far be it from me to say that it cannot be done or that it never will be done.

There are, of course, some weighty theoretical considerations which make the technology difficult, but I would hope that the designers and owners of this new mill would have carried out adequate pilot plant trials on a sufficiently large scale to assure themselves that their secret process will in fact produce acceptable newsprint at an economic cost.

Before embarking on a venture involving a great deal of money one must be sure that the new facilities will produce a good product day in and day out for years and years. Perhaps the promoters of the project have satisfied themselves with adequate trials. If so, God bless them and may they succeed!

I cannot believe, however, that even if this new plant is successful it will have too great an impact on the presently existing facilities for making newsprint.

We should remember that the steel industry still requires ore although they use a lot of scrap.—*(Name Withheld at request).*

### Views of Another Newsprint Manufacturer

EDITOR: I have read your story in February 20th issue of PULP & PAPER. Any news item which promises lower costs is interesting and any development which increases the use of waste materials or upgrades waste materials is also of important interest. Therefore the effort of Mr. Scudder along these lines is commendable. When the subject of this effort is paper, whether it is newsprint or publication, it has greatest importance because of the economic importance of paper in transmitting information.

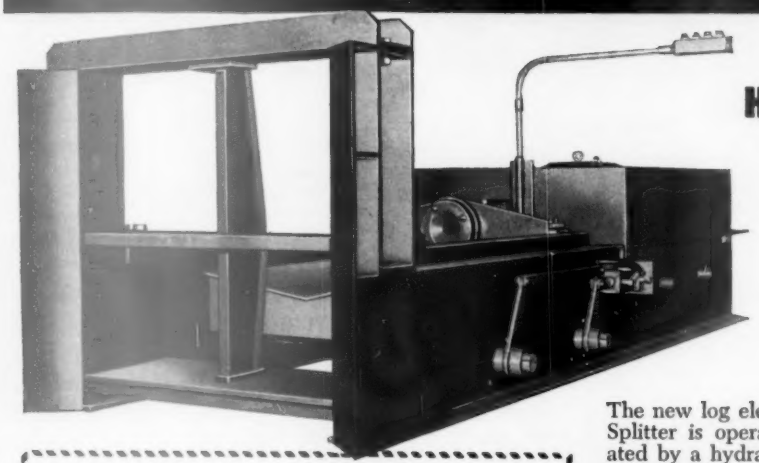
In what has been reported, it appears to us that some elements of the project have been viewed with considerable optimism. The cost, for instance. The importance of lack of aging of the freshly printed over-issue. Also the assumption that over-issue will continue to be available in ample supply without undue premium cost. Some of these things might be considered lacking in assured stability for the major investment and operation required.

As against this there is no question that the raw material after deinking can be virtually the equal of the virgin furnish. If shives are screened it can be cleaner. If bleached, it can be brighter. However, those factors could be included in the present manufacture of newsprint if the demand justified doing so. Actually we are quite sure what is wanted is cheaper newsprint and cheaper papers generally, not better papers except in the matter of actual utility.

In the matter of any special chemical which would alter the operation of depulping, washing, screening, etc. that remains to be proven in practice. Laboratory or small scale development work can and is quite frequently misleading.

I think we will just have to wait and see the results of a good effort.—*A paper company president (name withheld on request).*


**NEW! Log Elevator Mechanism**



**Makes the Carthage Hydraulic Log Splitter**

**EVEN EASIER to INSTALL**

•

**EVEN EASIER to SERVICE**

The new log elevator of the Carthage Hydraulic Log Splitter is operated through a series of levers actuated by a hydraulic cylinder mounted on the outside of the splitter frame. No pit is required, so that the Splitter is easy to install and easy to move from location to location. Can be placed on cross timbers—no bolting-down needed. Cylinder rings and packing are quickly accessible for low-cost maintenance. ONE STROKE splits logs into four pieces (6-way axe also available). Fast, safe, trouble-free push-button operation. 30" and 38" log diam. splitters available. Service-proved since 1950.

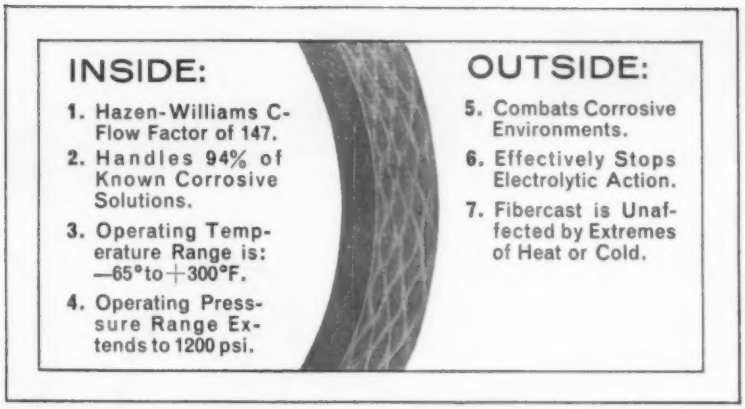
**Still Another NEW Feature!**

With no increase in pressure, the Carthage Hydraulic Splitter can now split logs that could not be split before!

*Ask about this new development*

**CARTHAGE MACHINE CO.**

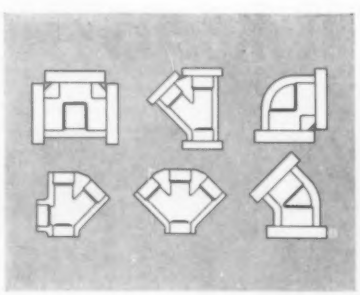
CARTHAGE, N. Y.


INSIDE:
1. Hazen-Williams C-Flow Factor of 147.
2. Handles 94% of Known Corrosive Solutions.
3. Operating Temperature Range is: —65°to+300°F.
4. Operating Pressure Range Extends to 1200 psi.
OUTSIDE:
5. Combats Corrosive Environments.
6. Effectively Stops Electrolytic Action.
7. Fibercast is Unaffected by Extremes of Heat or Cold.

# How Fibercast pipe is better built to combat corrosion...*inside and out!*

*Years of research and development have perfected the most versatile pipe tested for heat, pressure and corrosive applications. Years of actual field use prove its long service life! Here are the reasons why:*

1. FIBERCAST has a ceramic-smooth interior with a Hazen-Williams C Flow Factor of 147. Aids flow, resists deposit build-up.
2. FIBERCAST handles 94% of all known corrosive solutions. It is not impaired by acids, alkalies, salts, other damaging chemicals.
3. FIBERCAST withstands any temperature range from —65° to +300°F. This is a wider operating temperature range than any non-metallic pipe.
4. FIBERCAST provides superior resistance to high pressures. Its operating range extends to 1200 psi.
5. FIBERCAST has built-in inhibitors that combat the most highly corrosive environments and seals out contaminants.
6. FIBERCAST provides resistance to high tension forces. It is inert—stops electrochemical corrosion, forms an extremely durable dielectric shield.
7. FIBERCAST is unaffected by summer heat or winter cold; has superior resistance to severe atmospheres and weathering.



Fibercast has the world's most complete stock of standard fittings, as well as couplings designed and made to order for individual requirements.

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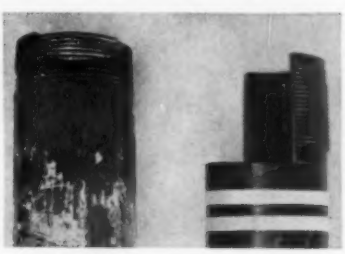

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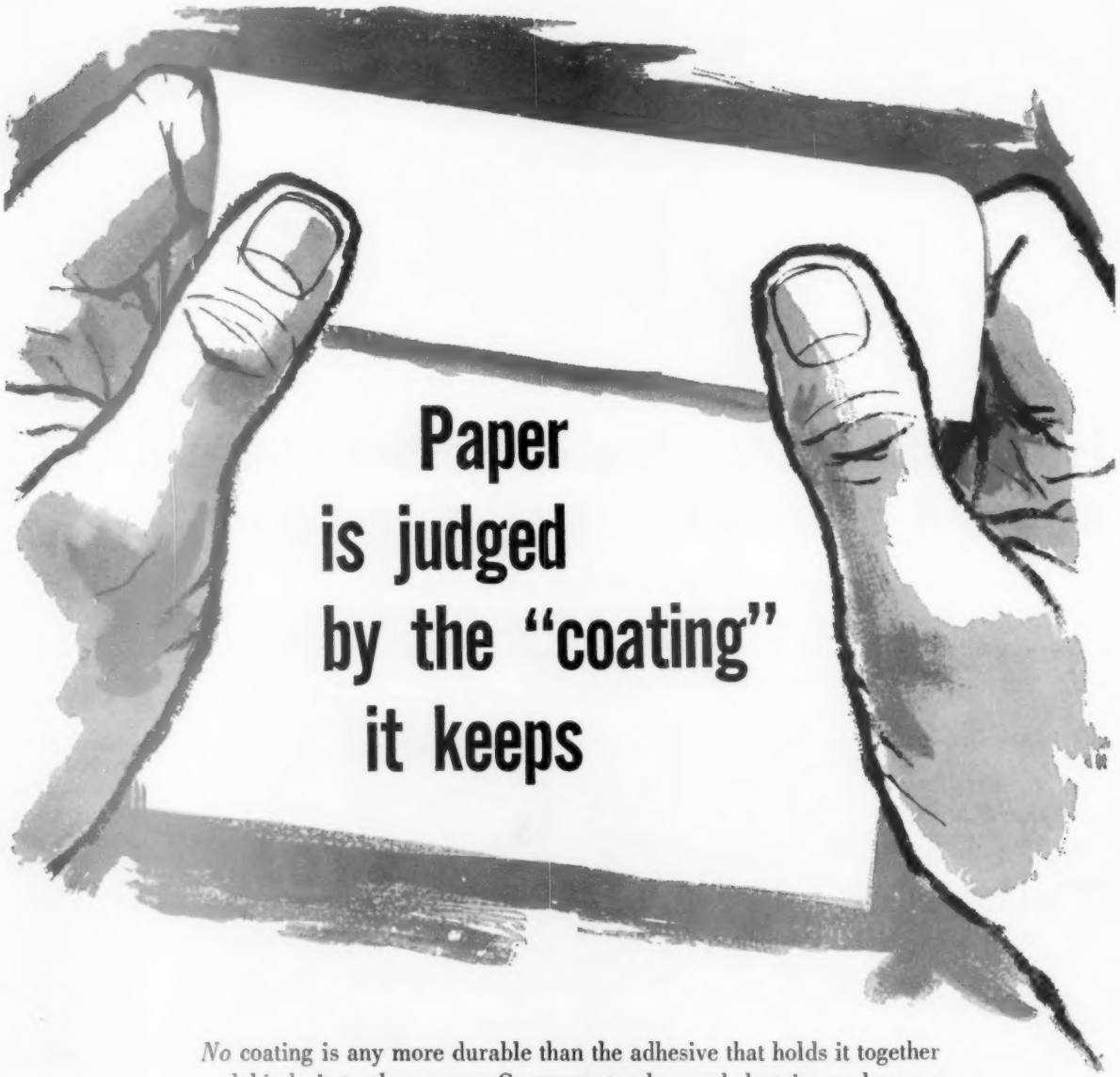

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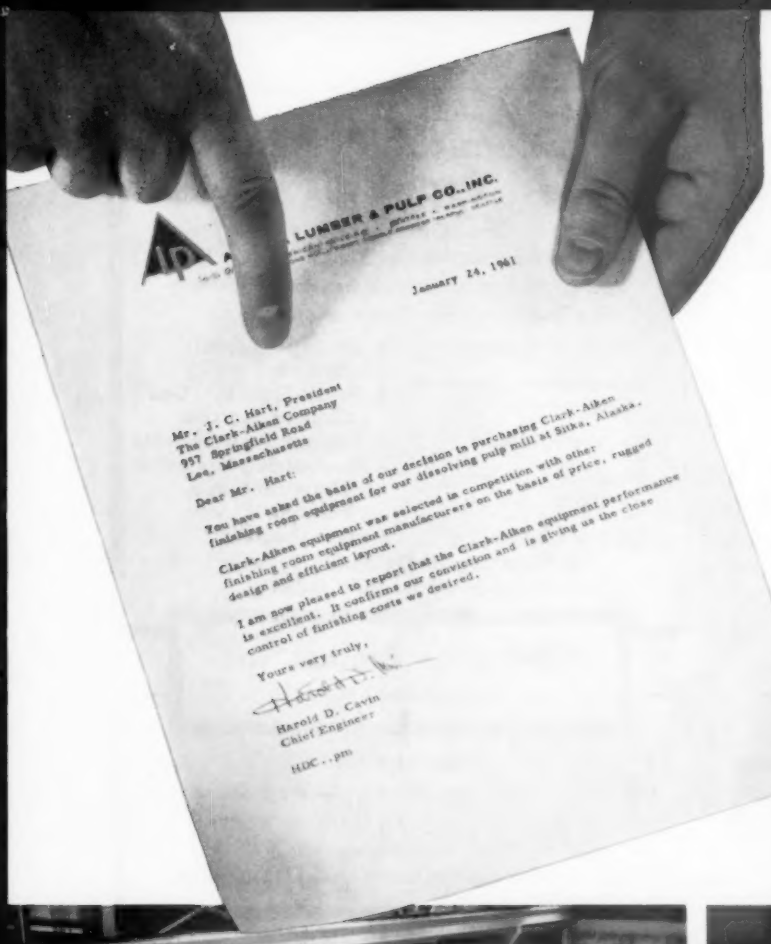
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January 24, 1961
Mr. J. C. Hart, President
The Clark-Aiken Company
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Dear Mr. Hart:
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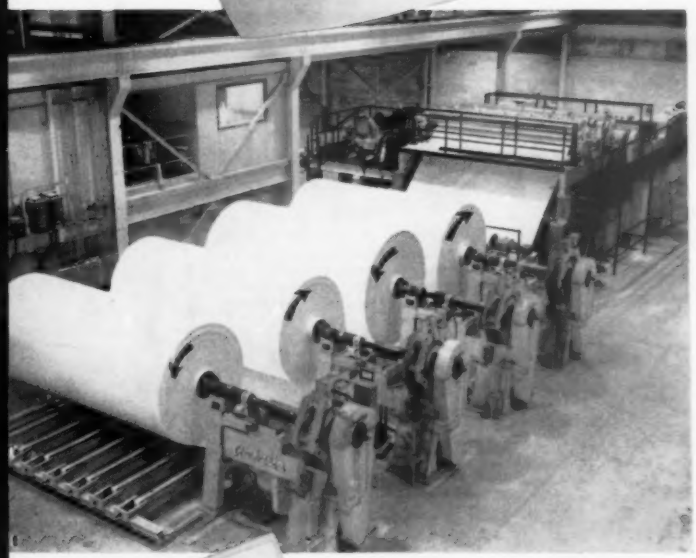

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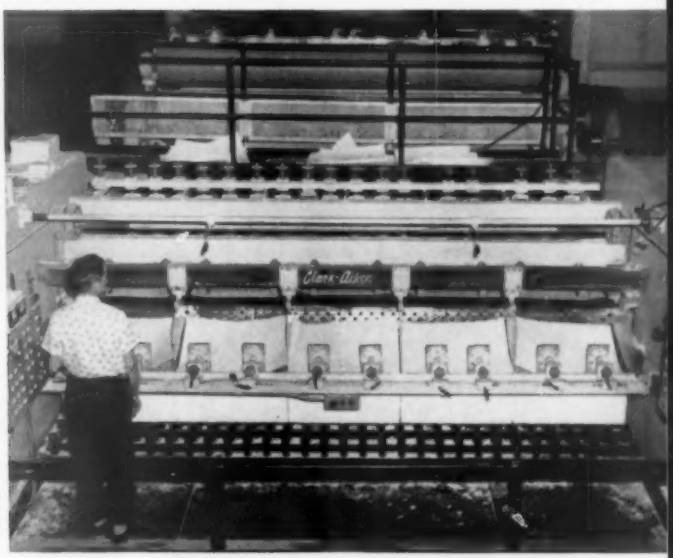


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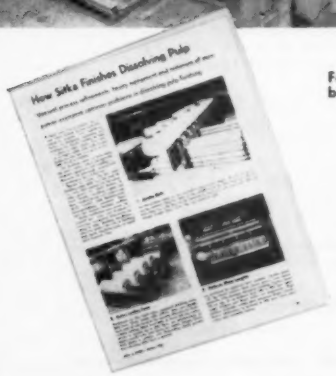


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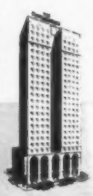

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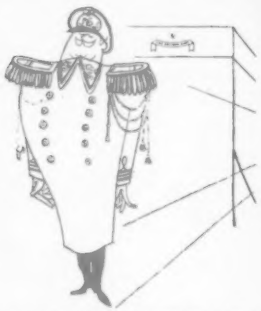

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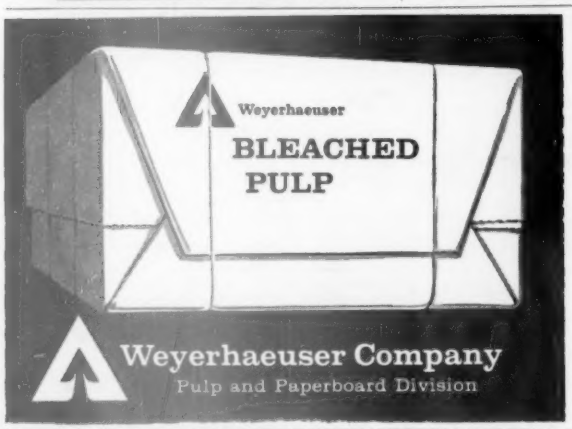



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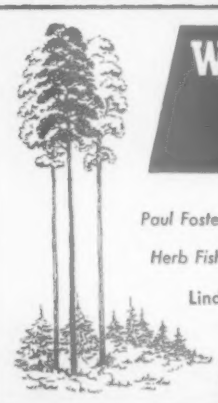

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# The last word

## APA Advises Federal Government on Proposed Timber "Set-asides"

The government has received some well-thought advice on proposed changes in the regulations for timber set-asides from American Pulpwood Assn. executive secretary W. S. (Bill) Bromley.

In answer to a request by the Director of the Office of Small Business Size Standards (Small Business Association), Mr. Bromley prepared a detailed point-by-point explanation on why the proposed changes appear difficult to carry out. Set-asides are sales of government owned timber on which only "small operators" can bid.

"Alleviate the problem of ineligible large concerns bidding through small concerns by having bid forms include a certification by the bidder that it is neither bidding nor acting as agent for any ineligible large concern; permit the small logger to sell the standing timber without any restrictive qualifications; allow the small logger to sell his logs, pulpwood or other forest products wherever he can make the best deal without government restrictions; leave the small logger freedom to secure his finances where he can get the terms which are best for him, without any restrictions from the government."

In conclusion, Mr. Bromley observed:

"In short we feel that the SBA is not furthering the interests of small business by hampering the freedom of action of the small logger to the point that he can not operate with the same freedom as the large operator or large mill when it bids on and buys government timber. If it is the best interest of the small operator to deal with large mills the SBA should not hamper such dealings. We realize that SBA is trying to help the small operator by trying to shut out the possibility of large operators benefiting in any way by these "set-aside" sales. Unfortunately the cures proposed to date will do more harm to the opportunities of the legitimate small operator than the evils which they are intended to correct."

Mr. Bromley and his competent staff of field engineers are well-versed in these problems. The government will do well to pay close attention to his advice.

## Note to President Kennedy

President Kennedy's farm message delivered to Congress last month covered a very broad spectrum of forestry problems in the U.S. —the need for reforestation, greater protection of forests from insects, disease and fire, additional forestry research, development of publicly owned national forests and government aid to small woods owners.

The message excluded what many people in the forest industries feel should be an integral part of any new approach, namely a more efficient organization of effort and not just more money. For example, concerning the trend in government forestry circles to emphasize small woodlands, industry feels that there are already many programs in this field which are not buying forestry on an economic basis, and before proceeding too far too rapidly, government should provide data more current and more reliable than that in the now-aging TRR.

The problems of forestry have not been one of the major issues in politics in recent years, and Mr. Kennedy's references to forestry in his farm message were but a small part of his overall presentation. It is, therefore, not surprising that Mr. Kennedy did not take the time to comment on some of the more positive aspects of forestry which have taken place in this country, more notably in the last 15 years. These include the strides in utilization, aerial seeding and planting, forest land rehabilitation—without government aid, support or subsidy. We sincerely hope that the advisers in the new administration will bring to the attention not only of the President but also the Secretary of Agriculture Orville Freeman and Secretary of the Interior Stewart Udall the forestry accomplishments of private landowners and forest industries, especially the pulp and paper industries.

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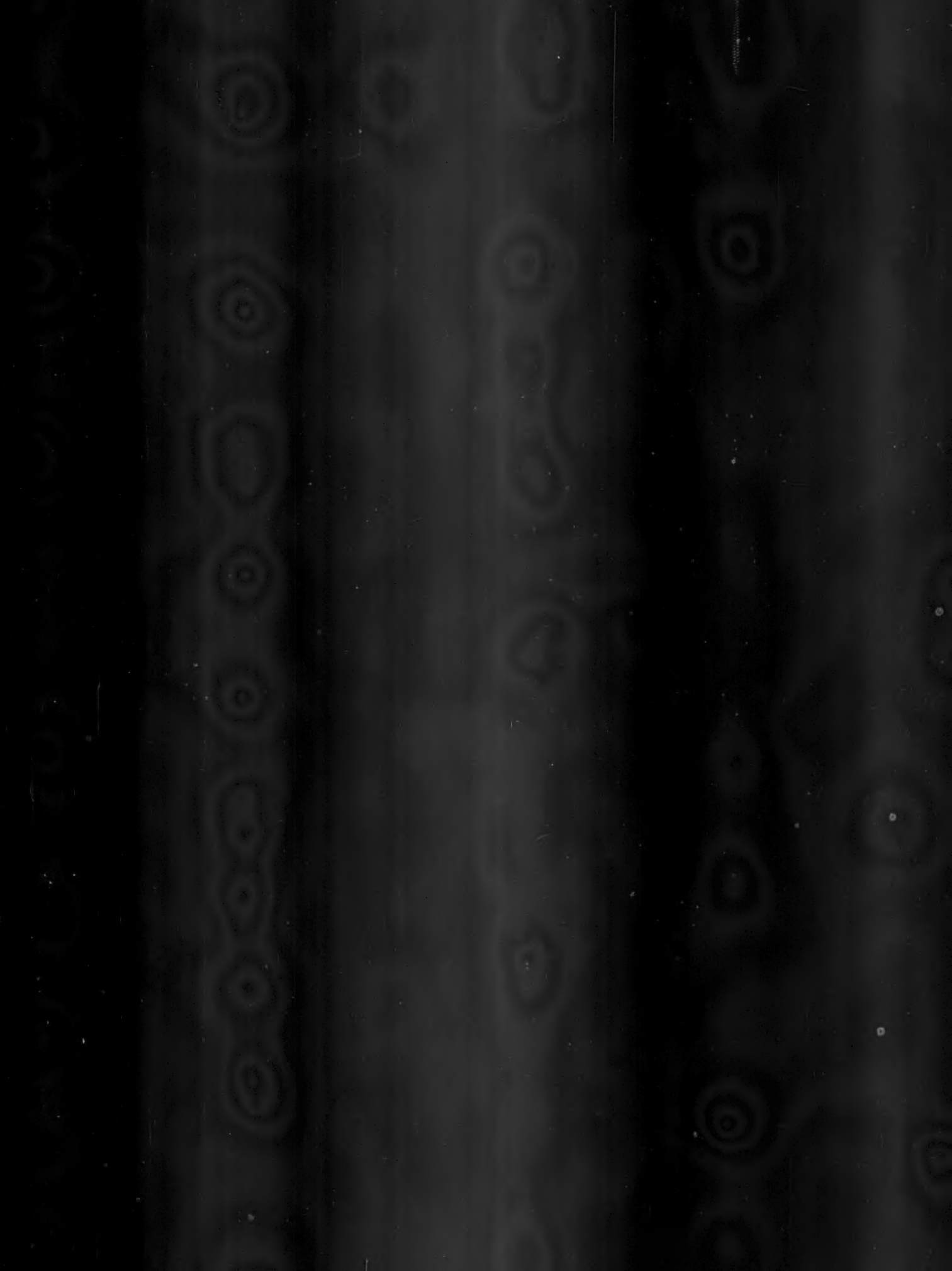
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